W. WATTS.

SWITCH RAIL.

APPLICATION FILED SEPT. 19, 1912.

1,068,954. Patented July 29, 1913.

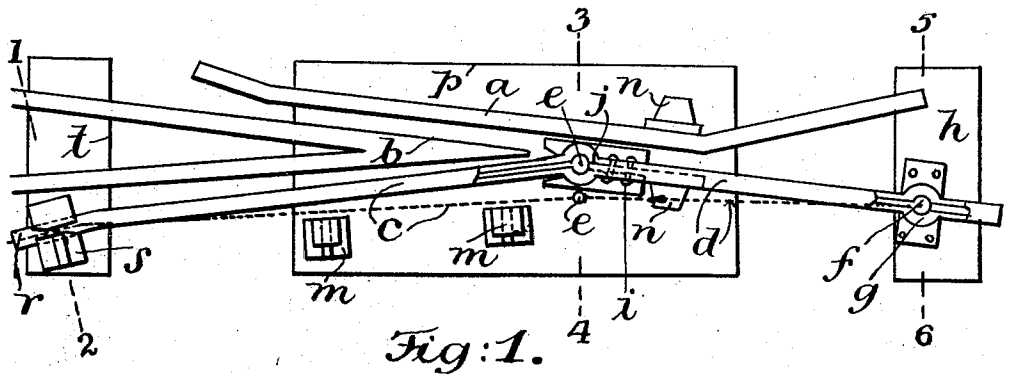


Fig: 1.

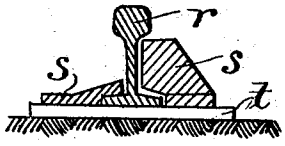


Fig: 2.

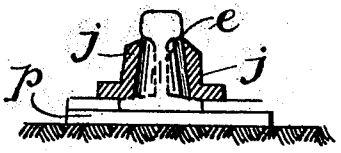


Fig: 3.

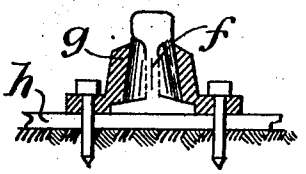


Fig: 4.

Witnesses:-

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UNITED STATES PATENT OFFICE.

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SWITCH-RAIL.

1,068,954. Specification of Letters Patent. Patented July 29, 1913.

Application filed September 19, 1912. Serial No. 721,273.

To all whom it may concern:

Be it known that I, WALTER WATTS, a subject of the King of Great Britain, and residing at Midland Junction, Western Australia, Commonwealth of Australia, have invented certain new and useful Improvements in Switch-Rails, of which the following is a specification.

This invention relates to railway points and crossings and in particular with what are known as spring frog crossings.

By means of this invention I produce a switch or check rail which has a universal movement and which operates with a combined radial and oscillatory movement as in a slidable manner. This rail is of a divided form, having two members or limbs, and at the point of division it is made with a hinged elbow or knuckle joint which gives the oscillatory or slidable movement, while one of its terminals is made with a pivot working in a corresponding shaped bearing, on which pivot the rail as a whole moves as in a radial manner. The other terminal is made with an offset which works in a guide bearing so as to hold the rail in its longitudinal movement. This hinged elbow allows the switch rail to move or slide outward or inward, and when in the outward position and during the time the wheels of the train are passing over the point and crossing, said rail assumes a position wherein it is parallel with the spring frog.

In order that my invention may be clearly understood, the same will be explained with the aid of the attached drawing in which—

Figure 1 is a general plan view showing the improved switch rail applied to a railway point and crossing, the dotted line denoting the rail as in its open position. Figs. 2 and 3 and 4 are sectional views taken respectively on the lines 1—2, 3—4 and 5—6 of Fig. 1.

In these drawings *a* is the fixed check rail and *b* the spring frog of the common type. The movable check rail is comprised by the two members *c* and *d* which are hingedly connected at their confronting ends by means of the elbow joint *e*. The free end of the member *d* is formed with a divided bearing *g* which receives a pivot pin *f* secured to the base plate *h*. This rail *c*—*d* is connected together by the rivets *i* at the hinged elbow *e*, the latter working in the slidable socket bearing *j*, and its outward movement is limited by the stops *m* and controlled by the ordinary spring boxes as *n*. This slidable bearing *j* works on the base plate *p* to which the stops *m* are secured. The terminal of the member *c* is made with a suitable offset *r*, so as to allow the rail to travel freely in its guide block *s* when the rail is moved, said guide being held on its base plate *t* as shown.

The use and working of the invention is obvious, as by the passing of the train wheels or the pulling of the switch lever, (not shown) the member *c* is caused to move outward and assume a parallel position to the edge line of the frog *b*, as denoted by the dotted line in Fig. 1, the hinged joint *e* and pivot *f* allowing the rail as a united whole to freely respond to either the opening or closing movement and to a suitable distance giving an opening of about one and three quarters inches at the toe of the frog.

The invention is adapted and usable for all types of crossings such as of the diamond; the scissors or K-shaped makes.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A railway switch rail having a radial universal movement both in a radial direction by means of a pivot and also in an oscillatory direction by means of a hinged elbow or knuckle joint substantially as herein set forth and as shown in the attached drawing.

2. A railway switch rail made of a form hingeably divided by an elbow joint to give an oscillatory movement and also made with a pivot to give a radial movement for the rail as a united whole, said rail being provided with bearings substantially as herein set forth and as shown in the attached drawing.

3. A railway switch rail comprising a pair of movable members hinged together at their confronting inner ends, in combination with supporting means whereon said rail members rest, a pair of bearings carried by said supporting means, one of said bearings hav-

ing one rail member pivoted thereto and the other bearing having the other rail member slidably engaged therewith, and stops carried by said supporting means for limiting the movements of said rail members in one direction.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WALTER WATTS.

Witnesses:
U. W. BURKE,
RICHARD SPARROW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."