O. SWANSON.

REVERSIBLE RAILWAY FROG AND CONNECTION.

APPLICATION FILED AUG. 2, 1911.

1,015,218. Patented Jan. 16, 1912.

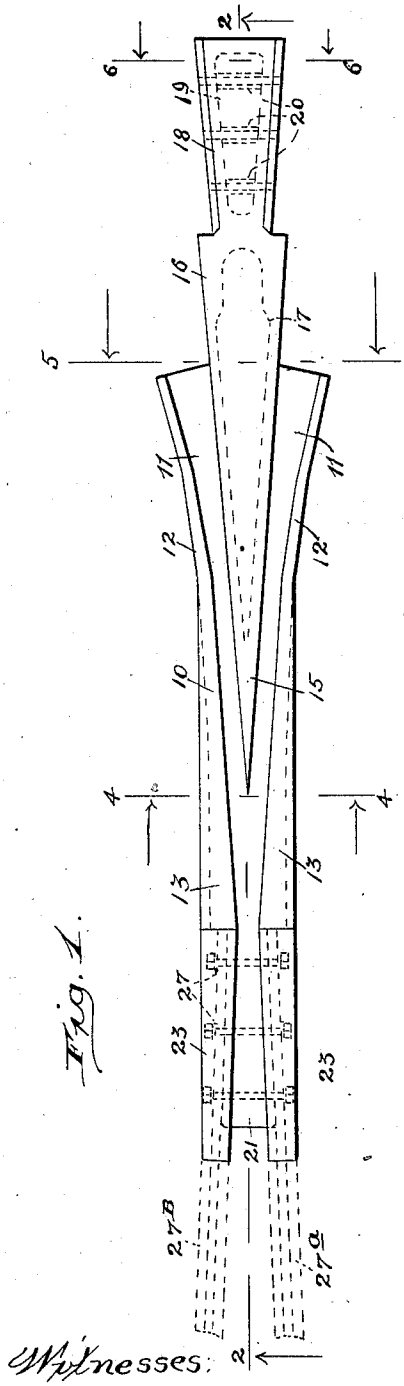

Fig. 1.

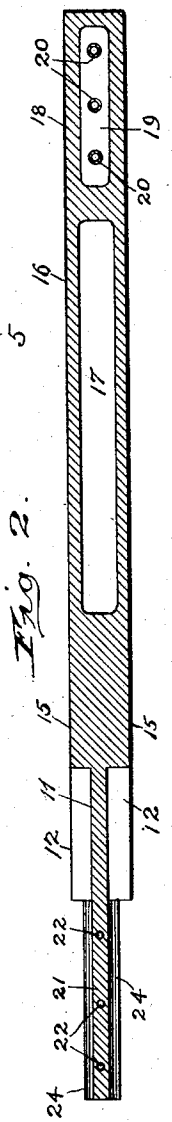

Fig. 2.

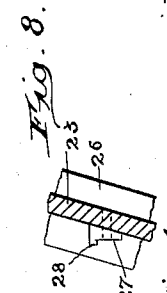

Fig. 8.

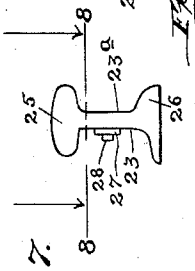

Fig. 7.

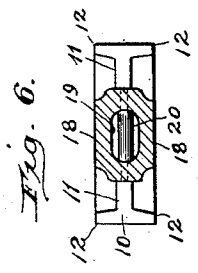

Fig. 6.

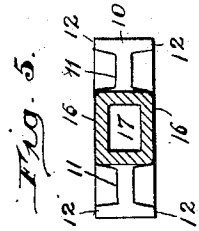

Fig. 5.

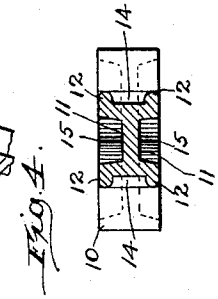

Fig. 4.

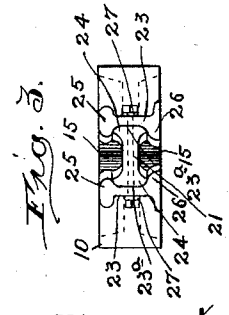

Fig. 3.

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REVERSIBLE RAILWAY-FROG AND CONNECTION.

1,015,218. Specification of Letters Patent. Patented Jan. 16, 1912.

Application filed August 2, 1911. Serial No. 641,920.

To all whom it may concern:

Be it known that I, OTTO SWANSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reversible Railway-Frogs and Connections, of which the following is a specification.

This invention relates to improvements in railway frogs of the stationary type, and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide a railway frog which shall be of such construction that it will be reversible in its application to the rails of the track, and shall be simple and inexpensive in construction, strong and more durable and efficient than those heretofore made.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which the invention pertains, to make and use the same, I will now proceed to describe it referring to the accompanying drawing in which—

Figure 1, is a plan view of a reversible frog and its connections, embodying the invention. Fig. 2, is a longitudinal sectional view taken on line 2—2, of Fig. 1. Fig. 3, is an end view of the frog showing the specially constructed rail sections secured to one end thereof. Fig. 4, is a cross sectional view taken on line 4—4, of Fig. 1, looking in the direction indicated by the arrows. Fig. 5, is a similar view taken on line 5—5, of Fig. 1, looking in the direction indicated by the arrows. Fig. 6, is a view partly in section and partly in elevation taken on line 6—6, of Fig. 1, looking in the direction indicated by the arrows. Fig. 7, is an end view of one of the specially constructed rail sections used for connecting the track rails to the frog, and Fig. 8, is a fragmental sectional view of one of said specially constructed rail sections.

Like numerals of reference refer to corresponding parts throughout the different views of the drawing.

The reference numeral 10, designates the frog as a whole which consists of a single piece of metal, preferably manganese steel, and formed with a horizontally disposed plate or portion 11, which has at each of its side edges a guard rail or flange 12, which are diverged toward one of their ends and converged toward their other ends, as will be clearly understood by reference to Fig. 1, of the drawing. These rails or flanges 12, extend at right angles to the plate or portion 11, and on both sides of the same, and are widened toward their converging or approximated ends as is clearly shown at 13, see Fig. 1, where it will be seen and understood that each of the flanges or rails 12, is provided on its outer surface with a longitudinal groove 14, which is more clearly illustrated in Fig. 4, of the drawing. The plate or portion 11, of the frog has formed integrally therewith a frog-point 15, which is located on each of the surfaces of the plate or portion 11, and extends outwardly therefrom about flush with the surfaces of the guard rails 12, between which the frog-point 15, is located and equally spaced therefrom at its sides. As is shown in Fig. 1, of the drawing, the pointed end of the point 15, is located between the converging portions of the guard rails 12, at a slight distance from the widened ends thereof. The frog-point 15, is gradually enlarged from its pointed end and projects some distance from the diverged ends of the rails 12, and from the adjacent end of the portion 11, or frog plate. This projecting portion is indicated by the reference numeral 16, and is provided with a longitudinally extended core 17, for the sake of lightness and economy of material. Extended outwardly from the enlarged portion 16, of the frog-point is a tapered extension 18, which is also provided with a longitudinally extended core 19, for the same purpose as above stated. Extended transversely through the core 19, and uniting the side portions of the extension 18, are a series of sleeves 20, through which bolts may be passed which are used for securing the rails of the track, not shown, to the sides of said extension.

Projecting horizontally and outwardly from the enlarged or converged ends of the guard rails 12, is an extension 21, of the plate or portion 11, of the frog, which extension is provided with a series of transverse openings 22, for the reception of bolts used for securing specially constructed rail sections 23, to the sides of the extension 21, which sides are provided with flanges 24,

to fit in grooves 23ª, formed on the inner surfaces of the webs of the rail sections 23, which rail sections are provided with heads or tread portions 25, to correspond in shape with the track rails 27ª and 27ᴮ, shown by dotted lines in Fig. 1, of the drawing. Each of the specially constructed rail sections 23, is provided with a base portion 26, on which the flanges 24, of the extension 21, will rest. Each of the webs of the rail sections 23, is provided on its outer surface with an apertured lug 27, which apertures communicate with the openings 22, in the extension 21, and as is clearly shown in Fig. 8, of the drawing. Each of said lugs 27, is beveled and provided with a projection 28, see Fig. 8, against which the heads of the bolts which are extended through the apertures in the lugs and the openings 22, in the extension 21, will rest, thus providing flat surfaces for the heads of the bolts as well as the nuts thereon as well as furnishing means for preventing the bolts turning. The inner ends of the specially constructed rail sections 23, abut against the widened portions of the guard rails 12, and the outer ends of said rail sections abut against the ends of the rails 27ª and 27ᴮ, of the track, which rails as well as the frog may be mounted on cross ties and connected together in the usual manner.

From the foregoing and by reference to the drawing, it will be readily understood and clearly seen, that, by employing a frog constructed according to my invention, it will be much more durable than ordinary frogs, for the reason that it is preferably made of manganese steel, and is of such construction that it can be reversed and either surface thereof disposed upwardly for the travel of the car wheels.

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

1. A reversible railway frog consisting of a plate having on each of its faces and at each edge thereof a guard rail and provided on each of its faces with a frog-point extended between said guard rails and projected beyond one end of the plate, said plate having at its other end a horizontally disposed extension provided with a flange at each of its edges, and rail sections having grooves on their inner surfaces to receive the flanges on said extension and secured thereto.

2. A reversible railway frog consisting of a plate having on each of its faces and at each edge thereof a guard rail and provided on each of its faces with a frog-point extended between said guard rails and projected beyond one end of the plate and having at its outer end a reduced extension provided with transverse openings, the said guard rails being diverged toward one of their ends and converged toward their other ends, the said plate also having at its opposite end from that beyond which the frog-point projects, a horizontally disposed extension provided with a flange at each of its edges, and rail sections having grooves on their inner surfaces to receive the flanges on said extension and secured thereto.

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