

P. HOFFMANN.
SWITCH POINT.
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1,033,400.

Patented July 23, 1912.

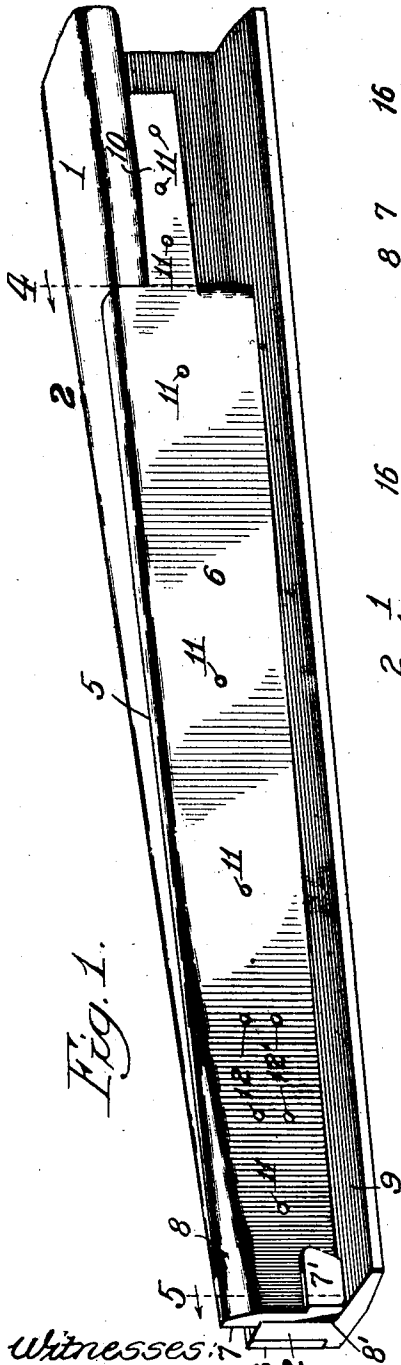


Fig. 1.

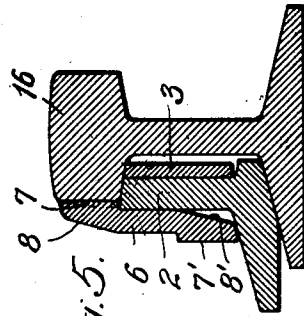


Fig. 5.

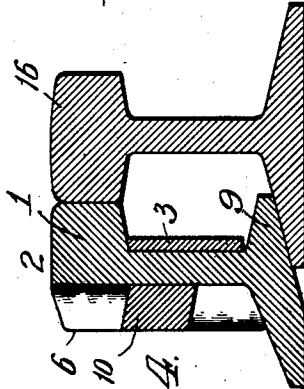


Fig. 4.

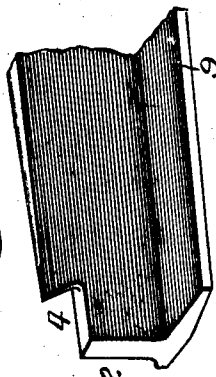


Fig. 2.

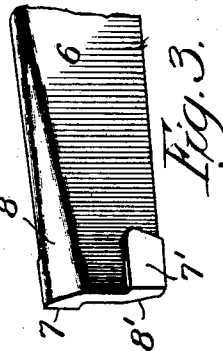


Fig. 3.

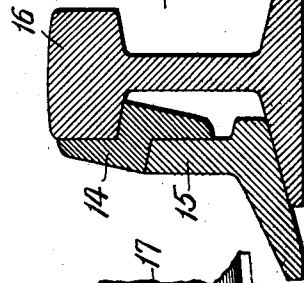


Fig. 6.

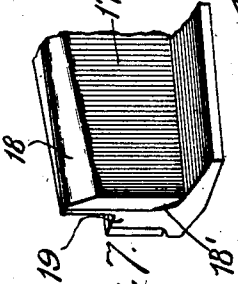


Fig. 7.

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UNITED STATES PATENT OFFICE.

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SWITCH-POINT.

1,033,400.

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To all whom it may concern:

Be it known that I, PAUL HOFFMANN, 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 Switch-Points, of which the following is a specification.

The object of my invention is to provide a point rail for switches with a section formed of manganese steel or other highly resistant material at the point where the rail is subjected to the greatest wear, and to construct said wear member in such manner that it may be adjusted to the body of the switch rail in a plurality of positions thereby presenting new material in the region of greatest wear when one part of said member has become worn. In the preferred form of my invention, I apply the wear member to the inside of the switch rail, but I have also shown and described a wear member which may be applied to the outside, that is, the side toward the stock rail.

The particular object and nature of my invention will more clearly appear from the following description and claims, taken in connection with the accompanying drawings in which—

Figure 1 is a perspective view of the tapered end of a switch rail with one form of my improved wear member applied thereto. Fig. 2 is a perspective view of the extreme end of the switch rail before the preferred form of wear member is applied thereto. Fig. 3 is a perspective view of the extreme end of the wear member illustrated in Fig. 1. Fig. 4 is a cross section upon the line 4 of Fig. 1. Fig. 5 is a cross section upon the line 5 of Fig. 1. Fig. 6 is a cross sectional view showing another form of my invention, this being a form in which the wear member may be applied to the outside of the switch rail. Fig. 7 is a perspective view corresponding to Fig. 1 and showing a modified form of the wear member.

In point switches the greatest wear occurs upon the inside of the point or switch rail adjacent its end, this being the point where the wheels of the rolling stock are first deflected from their course, and in practice frequent renewals of the switch rails are necessary on account of the excessive wear at this point. In certain prior constructions hard metal, such as manganese steel, has been used at the point of switch rails for the pur-

pose of securing a greater degree of resistance to the excessive wear mentioned. In my improved construction I apply a hard metal wear member at the point referred to and construct this wear member in such manner that after it becomes worn in one part its position may be changed so as to present a new and unworn surface at the region of greatest wear.

In the form of the invention illustrated in Figs. 1 to 5, the head 1 of the switch rail 2 is tapered in the usual manner, such tapering upon the outside, or side toward the stock rail, being varied to such an extent as to make the head of the rail thinner than the web thereof. The precise manner, however, in which the head of the rail is tapered is not essential to the application of my invention. In Fig. 1 I have shown the usual reinforcing strap 3 secured to the web of the switch rail, and at the extreme end of the switch rail I have shown the head completely cut away down to the web of the rail forming a notch or recess 4. The head of the switch rail may be cut away to any desired distance back from the point. In the drawings I have illustrated the head as cut away only a short distance back from the point, but the amount of the head of the switch rail which is cut away may be varied to any extent. The inside of the head of the switch rail is cut away upon a line 5, thus reducing the thickness of the head of the switch rail to a point beyond the necessary outline for the completed structure. The part of the head of the switch rail cut away upon the line 5 and to form the recess 4 is replaced by the hard metal wear member 6. The wear member 6 is symmetrically constructed about a horizontal plane passing through its center and is provided upon opposite sides at its upper and lower edges adjacent the end with projections 7 and 7' adapted to fill the recess 4 in the end of the switch rail. The wear member 7 is also beveled at 8 and 8' in order to give the assembled structure the desired form for deflecting passing wheels upon the switch rail. The beveled surfaces 8 and 8' and the projections 7 and 7' are of the same form and the entire structure is preferably formed symmetrically, as above stated, about a horizontal plane passing through the center of the wear member. The wear member 6 is so formed as to fill the recess formed by cutting away the head

of the switch rail along the plane 5, thereby giving the assembled structure the proper outline. The wear member 6 is preferably formed so that its lower edge will rest upon the base 9 of the switch rail and at its inner end the wear member is provided with a tongue 10 adapted to lie beneath the head of the switch rail. The wear member is provided preferably along its center with bolt-holes 11 to receive bolts for securing the same to the switch rail, and is also provided with bolt-holes 12 and 12', the bolt-holes 12 and 12' being symmetrically disposed about the horizontal center of the wear member. The bolt-holes 12 and 12' are located as described on account of the fact that the switch rods ordinarily used are provided with bolt-holes which are adapted to lie somewhat lower than the center of the wear member in order that the head of the switch rod may lie beneath the flanges of passing wheels.

When the wear member becomes worn along the inside of its upper edge, as shown in Fig. 1, it may be removed from the switch rail and turned through 180°, thereby bringing the projection 7' and the wear surface 8' into the position previously occupied by the wear surface 8 and projection 7. This has the effect of placing a new and unworn section in operative relation with the switch rail, thus doubling the life of the wear member. The bolt-holes 11 being upon the center line of the wear member and the bolt-holes 12 and 12' being symmetrically disposed about the center, such reversal of position is effected with no labor other than removing the bolts, turning the wear member over and replacing the bolts.

In Fig. 6 I have illustrated in cross section a wear member 14 adapted to be applied to the outside of a switch rail 15. This view shows the switch rail in operative relation with a stock rail 16. In Fig. 5 the form of the device illustrated in Figs. 1 to 4 is shown in operative relation with a stock rail 16.

In Fig. 7 I have illustrated a wear member 17 of symmetrical form and provided with wear surfaces 18, 18', this wear member being adapted to lie alongside of the head of the switch rail throughout its length. In the form of the structure illustrated in Fig. 7, the switch rail 19 maintains its complete height throughout its length and extends to the extreme end of the switch rail structure, not being cut away to form a recess such as designated by the numeral 4 in connection with the form of the device illustrated in Figs. 1 to 5. The wear member 17, illustrated in Fig. 7, is symmetrically constructed as described in

connection with the other forms of my invention and may be reversed to present a new wear region when one part becomes worn.

While I have described certain specific embodiments of my invention, the application of the principle thereof is not restricted to the particular forms illustrated as above described, but consists generally in the construction of a reversible wear member provided with a plurality of parts that may be successively adjusted to the region of greatest wear.

I claim:

1. In a device of the class described, a switch rail, and a wear member adapted to be secured to said switch rail, said wear member having a plurality of wear sections each of which may be adjusted and secured in operative relation to said switch rail.

2. In a device of the class described, a switch rail, and a wear member, said wear member being symmetrically formed whereby it may be adjusted in different relations to said switch rail for the purpose of presenting a new part in the region of wear when one part becomes worn.

3. In a device of the class described, a switch rail, and a wear member, said wear member being provided with symmetrically disposed projections adapted to engage the said switch rail in a plurality of positions, whereby a new wearing surface may be adjusted and secured in operative position when one of the wearing surfaces becomes worn.

4. In a device of the class described, a switch rail, a portion of the head of said rail being cut away adjacent the tapered end thereof, and a wear member having two symmetrically disposed projections, whereby said wear member may be adjusted and secured to said switch rail with either of said projections resting upon the web of said rail in the space where the head thereof is cut away.

5. In a device of the class described, a switch rail reduced in height at its end portion to form a recess and reduced in width along one side, and a symmetrically formed wear member adapted in a plurality of positions to fit into said recess and at the same time lie along the side of the part of said switch rail at which its width is reduced.

In testimony whereof, I have subscribed my name.

PAUL HOFFMANN.

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