

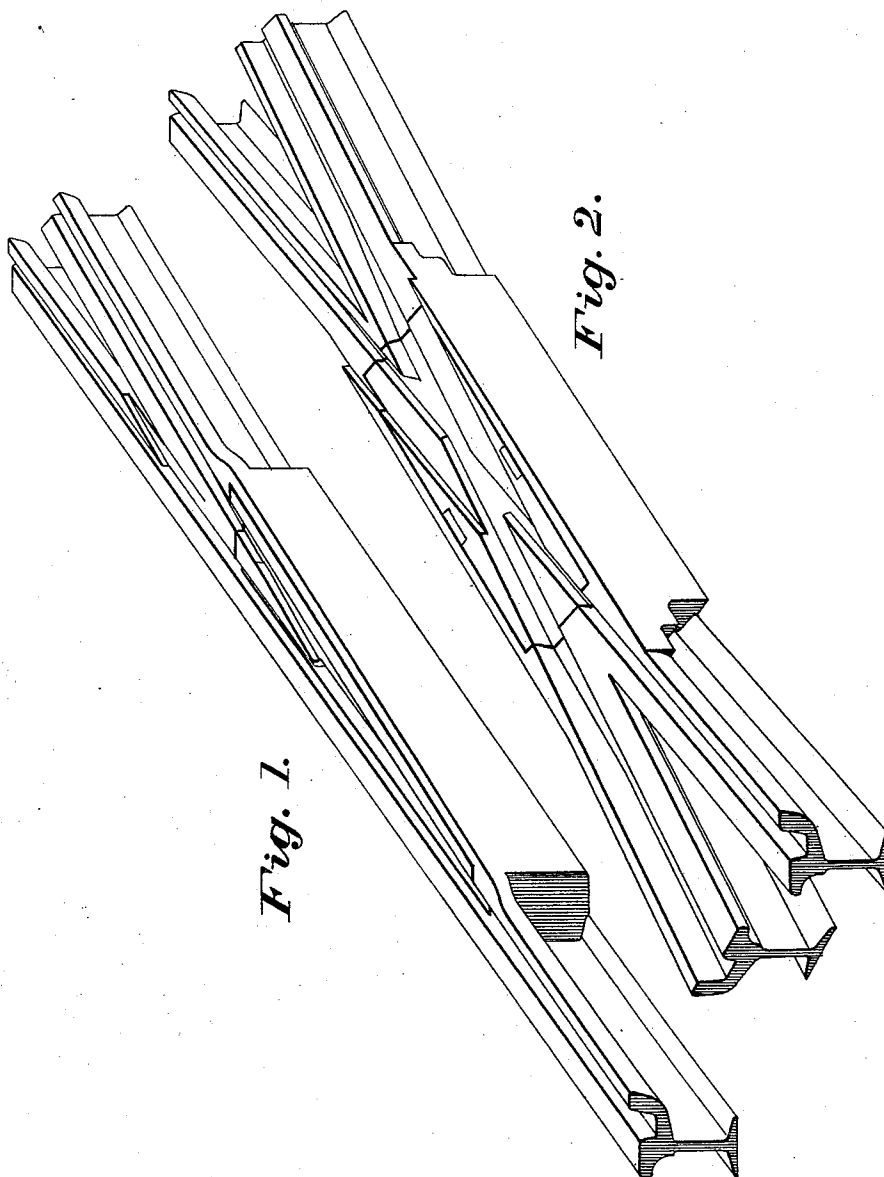
(No Model.)

3 Sheets—Sheet 1.

A. J. MOXHAM.
RAILROAD SWITCH WORK.

No. 536,735.

Patented Apr. 2, 1895.



WITNESSES:
C. M. Balsinger
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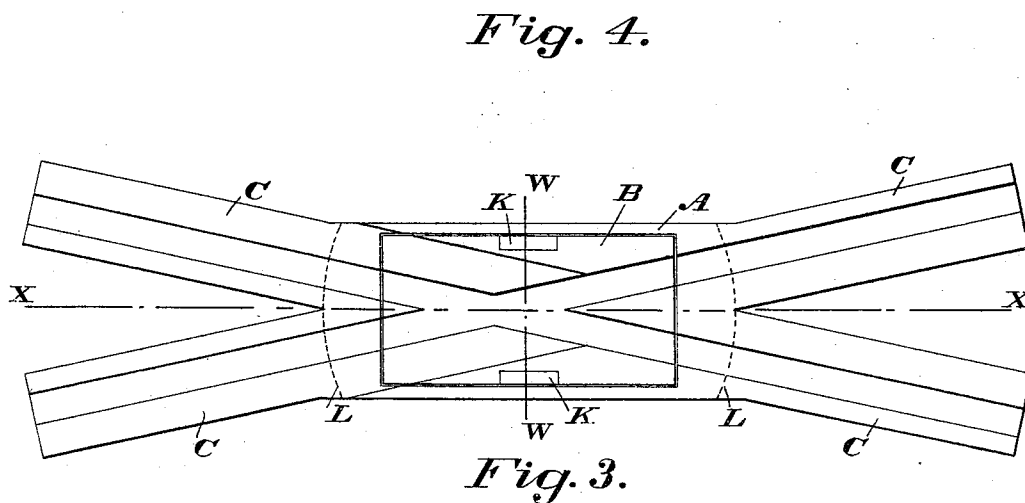
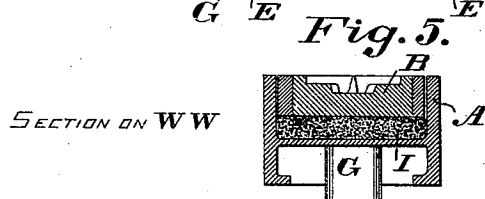
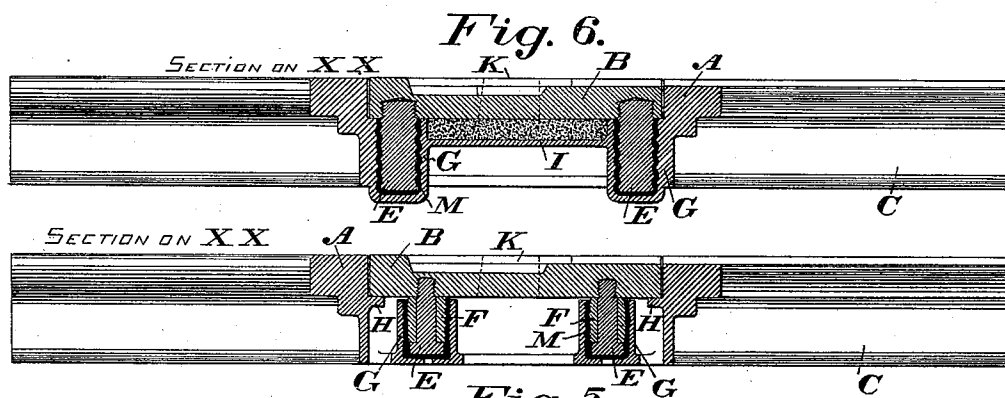
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3 Sheets—Sheet 2.

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RAILROAD SWITCH WORK.

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(No Model.)

3 Sheets—Sheet 3.

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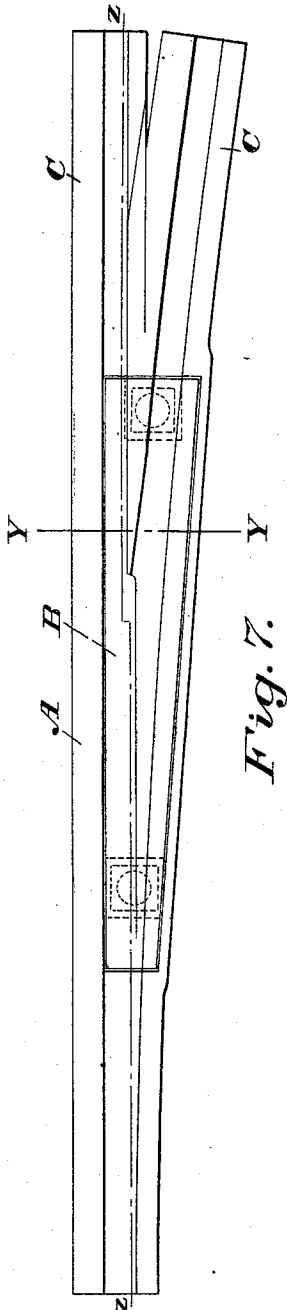


Fig. 7.

Fig. 8.

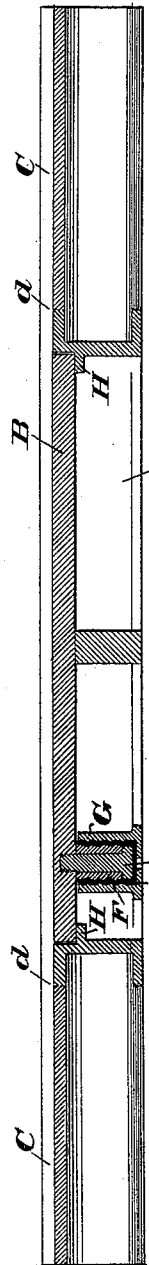


Fig. 9.

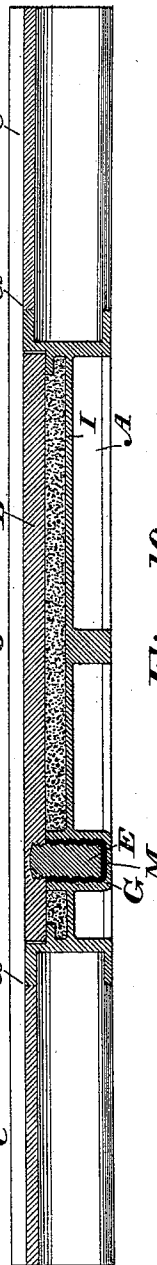


Fig. 10.

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UNITED STATES PATENT OFFICE.

ARTHUR J. MOXHAM, OF JOHNSTOWN, PENNSYLVANIA.

RAILROAD-SWITCH WORK.

SPECIFICATION forming part of Letters Patent No. 536,735, dated April 2, 1895.

Application filed March 30, 1894. Serial No. 505,766. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR J. MOXHAM, of Johnstown, county of Cambria, State of Pennsylvania, have invented a new and useful Improvement in Railway-Switch Work, of which the following specification is a true and exact description, due reference being had to the accompanying drawings.

My invention relates to that branch of switch work, such as mates, frogs, crosses, &c., in which two or more rails converge or cross forming what is known as a point or crossing point. The wear upon this point and the floor portion adjacent thereto is excessive and much greater than throughout the remainder of the track, from the fact that the wheels running upon both tracks traverse it, nor does the head present its full width to the wheel as it is narrowed off toward the point. The life of the floor portion is also comparatively short as the narrow edge of the wheel flange bearing on the same, rapidly cuts them away.

The object of my invention is to provide a switch piece in which this point is made of a more durable material than the remainder of the switch piece and from which it is capable of being removed for realignment or replacement.

Referring to the drawings: Figure 1 shows a mate and Fig. 2 a frog, each embodying my invention. Fig. 3 is a top view of the frog Fig. 2. Fig. 4 is a transverse section on line W—W, of Fig. 3, and Figs. 5 and 6 illustrate alternative sections on line X—X of Fig. 3. Fig. 7 is a top view of the mate Fig. 1. Fig. 8 is a transverse section on line Y—Y, of Fig. 7, and Figs. 9 and 10 illustrate alternative constructions on line Z—Z of Fig. 7.

In constructing the switch pieces shown I proceed as follows: A is a casting of the proper shape, having a pocket adapted to receive plate B, and having cast upon its ends short projections to which the abutting rails are welded as at *d*, Fig. 9. The plate B I prepare by taking a blank, preferably of rolled steel, and forming the necessary tracks and grooves upon its upper surface by planing or milling. In the case of the frog this plate may be cut from a long bar of the proper width and thickness. If desired the wearing surface may be made more durable by case hardening or any

suitable method, or the plate may be of chilled cast iron.

I will now describe my method of fastening the plate B in position in the frame A. Into the bottom of the plate I screw the bolts E. These bolts may be of large diameter and corrugated upon their surface, or they may be smaller and pass through a cast iron sleeve having the corrugation thereupon as F. The cross section of this sleeve, or of the corrugated bolt may be either circular or polygonal. I prefer the latter, as it will serve to prevent the bolt from turning, and thus unscrewing; or the corrugations may take the form of a coarse thread, and if the sleeve be fitted so as not to turn on the bolt and the sleeve have the same hand thread upon its surface as that with which the bolt is screwed into the plate the two will serve to keep each other tight.

To the frame A I attach the sockets G, either by casting them integral with it, or by providing them with lugs which engage the frame. These sockets are adapted to receive the bolts E, and are corrugated inside in a manner similar to the bolts. When the plate is in position with the bolts in the sockets I pour a retaining material, as M, in the socket as molten zinc or sulphur which when cool hardens and firmly secures the plate in position. To afford the plate a bearing throughout its length I either provide the ledge H Figs. 5 and 9 upon which it rests, or I cast a diaphragm as I a short distance below the plate, and fill the intervening space between with any material which may be poured in and will harden to afford a support, as cement, or molten sulphur.

When it is desired to remove the plate for realignment or replacement it may be readily done by applying heat to the top of the plate above the bolts so as to heat the bolts sufficiently to melt or soften the retaining material around them. This heating may be done by means of electricity, or a powerful flame may be applied to the plate.

The sockets K are adapted to receive lewises for lifting the plate.

I thus provide a switch piece in which the part subjected to the most wear is of a harder and more durable material than the remainder of the structure and one in which this part is readily removable and adjustable,

thereby permitting of a much better track alignment than is possible where this adjustment does not exist. To form the entire structure of this more durable material, or to
5 so treat the whole switch piece, would be very expensive and difficult, and thus by my invention I am enabled to form the main portion of the structure of a cheaper material only inserting, where necessary, the more ex-
10 pensive material thus effecting a great saving.

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

1. A railway switch piece comprising a body
15 portion having a pocket adapted to receive a plate; a plate having track surfaces upon it in said pocket, holding down members secured to and depending from the bottom of the plate and entering recesses or sockets in said body
20 portion and a retaining material in said sockets adapted to secure the holding down members therein.

2. A railroad switch piece comprising a cen-

tral body portion having a pocket adapted to receive a plate, and rail portions secured at
25 the ends of said body; a plate having track surfaces thereupon in said pocket, corrugated depending members secured to the bottom surface of the plate and entering similarly
30 corrugated sockets in said body portion, and a filling material in said sockets whereby the depending members are held therein.

3. In a railroad switch piece in combination with a body portion having a pocket; rail portions secured at its ends; a plate adapted to
35 enter the pocket and having track surfaces upon its upper side and studs or pins upon its lower side, said studs entering sockets in the body portion and being held therein by a filling material inserted in the socket.
40

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

ARTHUR J. MOXHAM.

Witnesses:

WM. A. DONALDSON,
D. BRYAN.