No. 677,165. Patented June 25, 1901.

V. ANGERER.

RAILROAD FROG STRUCTURE.

(Application filed Feb. 6, 1900.)

(No Model.)

Fig. 1.

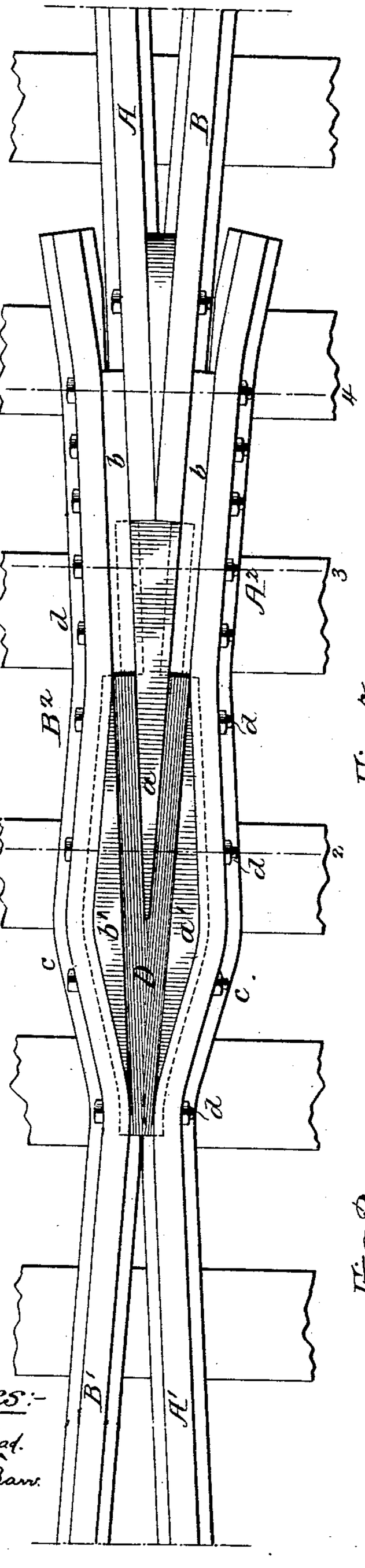


Fig. 4.

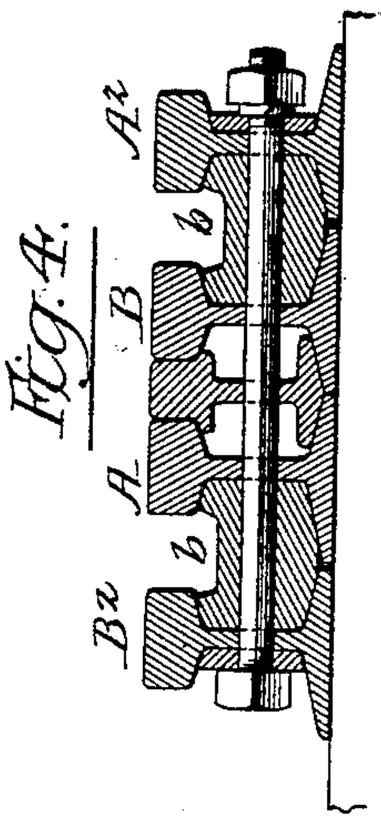


Fig. 7.

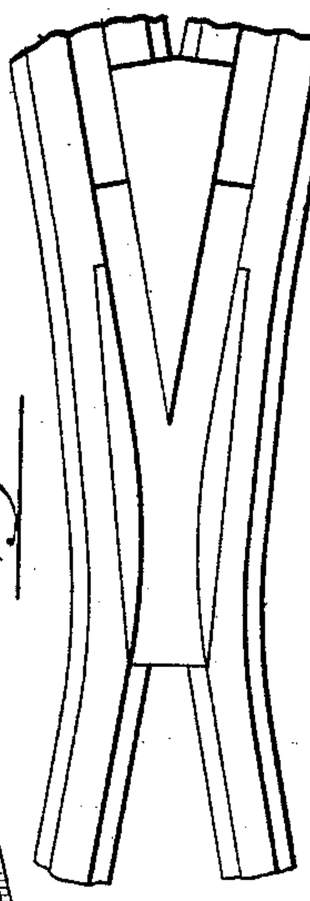


Fig. 3.

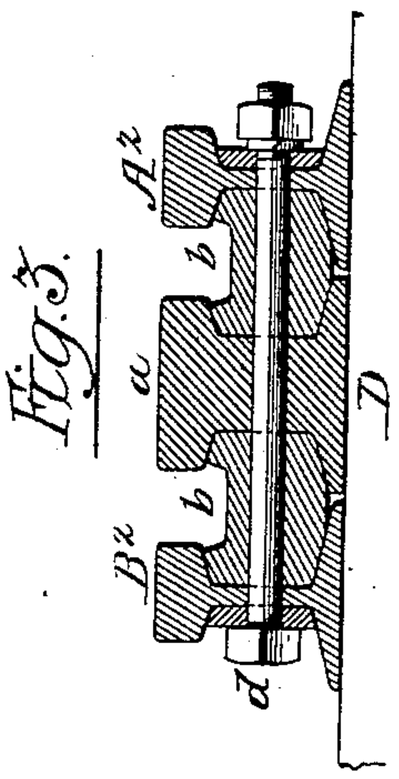


Fig. 5.

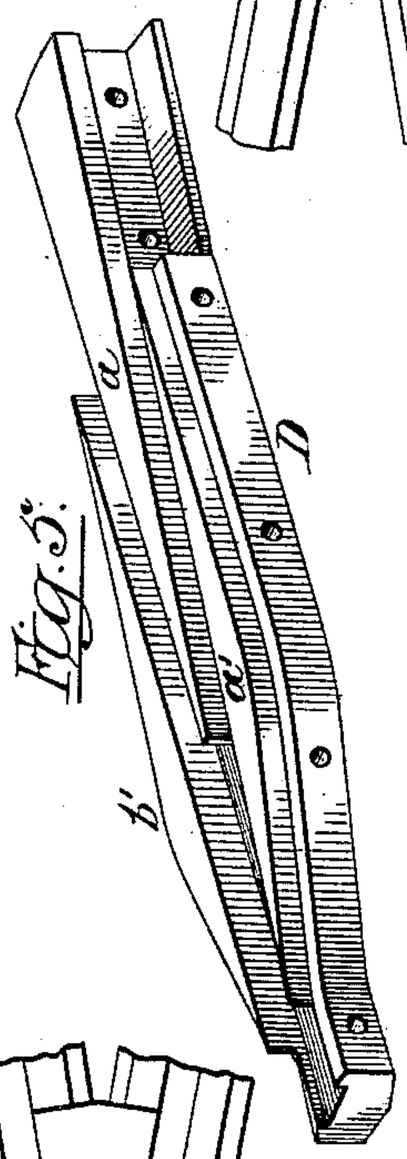


Fig. 2.

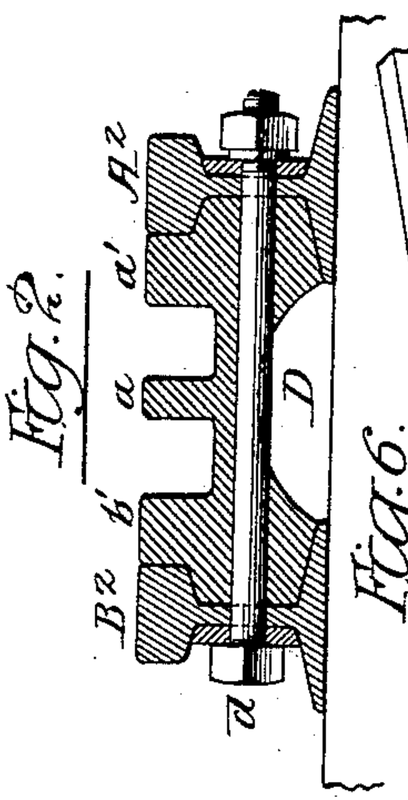
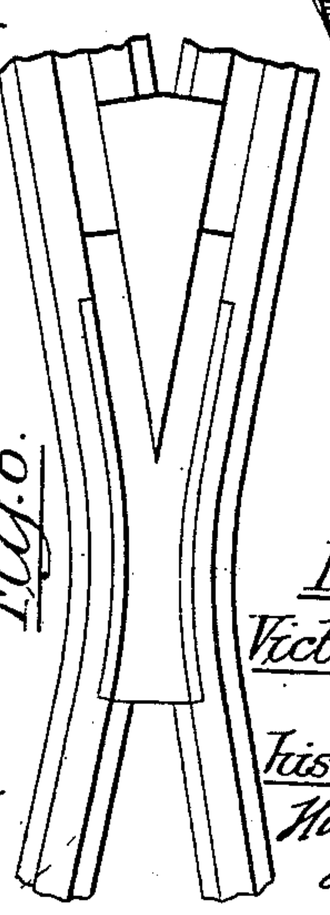


Fig. 6.



Witnesses:-
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Wm. A. Barr.

Inventor.
Victor Angerer
-by-
His Attorneys
Howson & Howson

UNITED STATES PATENT OFFICE.

VICTOR ANGERER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF SAME PLACE.

RAILROAD-FROG STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 677,165, dated June 25, 1901.

Application filed February 6, 1900. Serial No. 4,295. (No model.)

To all whom it may concern:

Be it known that I, VICTOR ANGERER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Railroad-Frog Structures, of which the following is a specification.

The object of my invention is to improve the construction of railroad-frogs by inserting in the frog a hard-metal section having the point and the side bearing-plates all in one piece. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a railroad-frog, illustrating my invention. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a section on the line 3 3, Fig. 1. Fig. 4 is a section on the line 4 4, Fig. 1. Fig. 5 is a perspective view of the hard-metal section, and Figs. 6 and 7 are views of modifications of my invention.

A and B are rails which terminate in the point *a*, and A′ and B′ are the rails which terminate in the wing-sections A^2 and B^2.

In order to prevent the rapid wearing away of the frog-point and the edges of the wing-rails opposite the point, I make these parts of hard metal, preferably manganese steel, and in order to make a perfectly rigid and substantial structure I make a casting D (shown clearly in Fig. 5) of manganese steel or other suitable hard metal, with the point *a* and cheek-pieces *a′* and *b′* integral therewith. I preferably insert filling-blocks *b b* between the rails A and B and the wing-rails A^2 and B^2, as shown clearly in Fig. 4, which overlap the joint between the point-section and the main rails, so as to add strength to the structure. The edges of the casting D are shaped to conform to the rails, so that they can be bolted firmly to the casting by bolts *d*.

It will be noticed in referring to Fig. 1 that the wing-rails are bent at *c c* to form cavities for the cheek-pieces *a′ b′*, which are preferably thick at the center and tapered toward each end of the casting D, so that while their bearing-faces are on a line with the inner faces of the wing-rails their outer edges conform to the shape of the bent portion of the wing-rails, thus forming a very substantial frog structure, as the bolts *d d* secure the several elements together.

In some instances I may find it desirable to notch the wing-rails opposite the point-section for the reception of the hard-metal cheek-pieces, as shown in Fig. 6, instead of bending the rails, or I may partly bend the wing-rails and cut the inner face of each head away for the reception of the cheek-piece, as shown in Fig. 7.

The structure can be made economically and can be readily repaired when necessary, although the hard-metal casting will usually outlast the rails, even though it is subjected to considerable wear.

I claim as my invention—

In a frog structure, the combination of the supporting wing-rails A^2, B^2, with a hard-metal body D, which fits into the sides of the said supporting wing-rails and constitutes the principal part of the frog and is formed with a groove which is divided into two grooves by a point *a*, and filling-blocks *b*, *b* mounted between the main rails A, B, and the wing-rails and overlapping the joint between the point-section of the hard-metal body D and the main rails A, B, with means for securing the several parts together, substantially as described.

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

VICTOR ANGERER.

Witnesses:
LEWIS R. ASHHURST, JR.,
C. W. CROASDILL.