

(No Model.)

H. ELLIOT.
RAILWAY FROG.

No. 379,154.

Patented Mar. 6, 1888.

Fig. I.

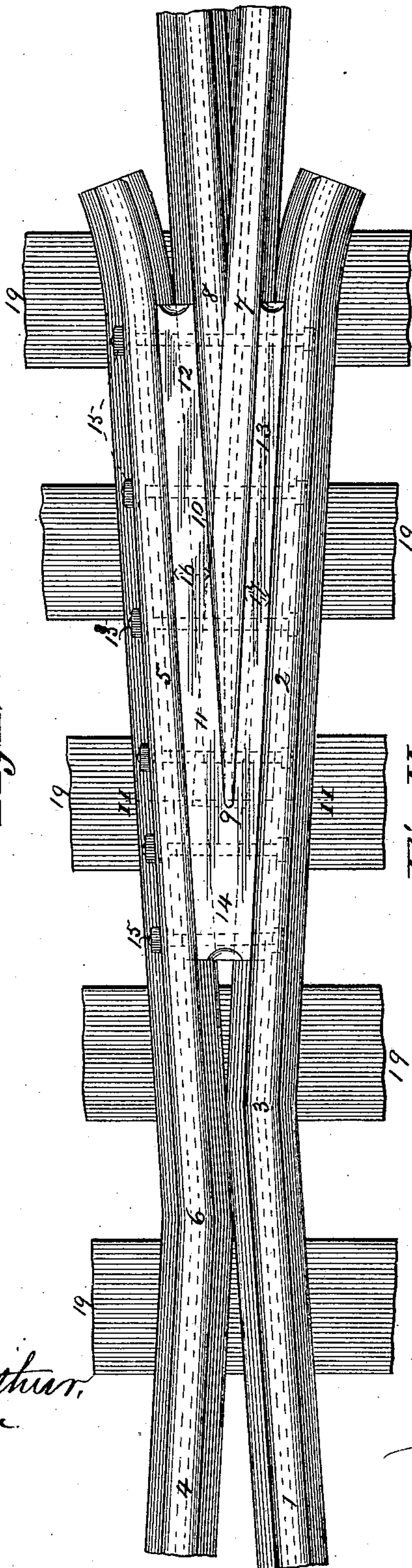
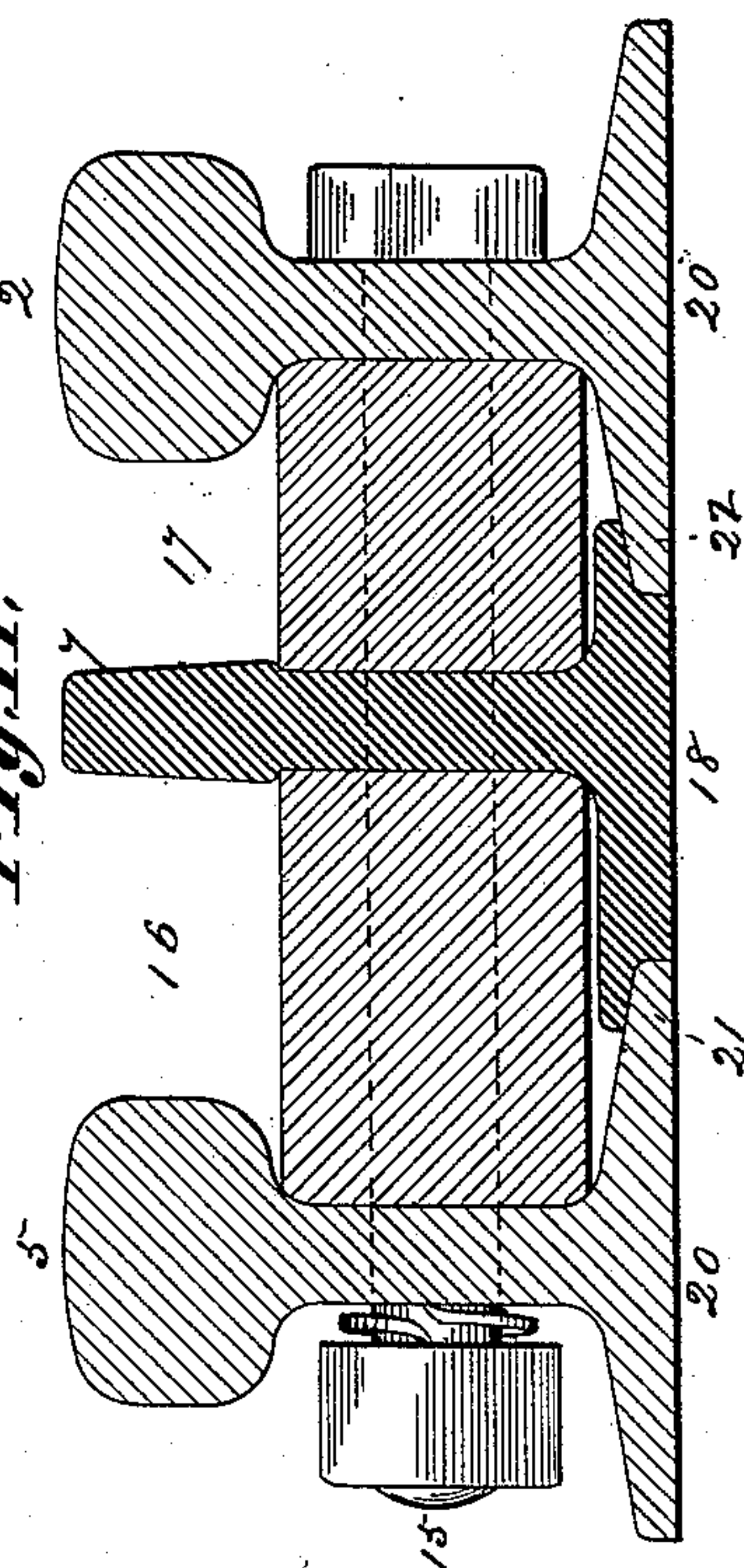


Fig. II.



Attest:
Emma Arthur,
M. G. Lacombe.

Inventor:
Henry Elliot
By Knight Bros.
Atty.

UNITED STATES PATENT OFFICE.

HENRY ELLIOT, OF ST. LOUIS, MISSOURI.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 379,154, dated March 6, 1888.

Application filed January 13, 1888. Serial No. 260,666. (No model.)

To all whom it may concern:

Be it known that I, HENRY ELLIOT, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Railway-Frogs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This frog is, in general construction, of the same character as the frog described and claimed in Letters Patent No. 170,537, granted November 30, 1875, to George Elliot.

The present improvement consists in making the opening for the passage of the wheel wider upon the main track and narrower upon the side track, and also in certain details of construction, hereinafter described and made subject-matter of claims.

Figure I is a top view of the improved frog. Fig. II is an enlarged transverse section at II II, Fig. I.

1 is a part of one rail of the main track ending in a guard-rail, 2. At the connection of the guard-rail and main rail is a bend, 3.

4 is a part of the rail of a side track ending in a guard-rail, 5, and 6 is the bend at the junction of the guard-rail 5 and side-track rail 4.

The frog proper is constructed of track-rails 7 and 8, which are reduced transversely to points 9 and 10, the point 9 forming the advanced end of the frog and the point 10 being fitted to the side of the rail 7. The filling-frame 11 is V-shaped, having two legs, 12 and 13, which fill the spaces between the rails 7 and 8 and the guard-rails 5 and 2 upon each side. The frame has a head or part, 14, which fills the space between the guard-rails. The parts are secured together by transverse bolts 15, which pass through the webs of the rails and the filling-frame. The openings between the frog proper or point and the guard-rails for the wheel-flanges are shown at 16 and 17. The opening 16 is for the flanges of wheels running along the main track over the rails 1 and 8, and said opening is made wider than the opening 17, which receives the flanges of wheels running on the side track upon the rails 4 and 7. This variation in width of the flange-openings is very important, for reasons which will now be stated.

It will be seen that the narrowing of the

opening 17 brings the bend 3 nearer to the point 9, and of course the guard-rail 2 nearer to the point 9. This results in two distinct advantages: first, the bend 3 and point 9 are so near together that the flange of the wheels running on the rails 1 and 8 does not leave the bend 3 until it has lapped past the point 9, so that it is impossible for wheel-flange to be diverted into the opening 17; second, the bearing for the tread of the wheel is made more perfect or continuous, so that jar is avoided and injury to the point 9 from the failure of the guard-rail to give adequate support to the wheel at this point, owing to the transverse distance from the point 9. The opening 17 may be safely thus narrowed, because trains running upon the side track are never run at a high speed; but, on the other hand, the opening 16 cannot safely be reduced in width, because it is necessary to provide for some transverse play in wheels running at a high speed. I have made the opening 16 two and one-fourth inches in width and the opening 17 one and one-half inch in width, but of course do not confine myself to exact measurements.

The bend 6 is of course farther from the point 9 than is the bend 3; but this is unavoidable and of comparatively little importance, because the wheels run from the bend 6 to the point 9 at a low speed, and consequently there is no violence or danger resulting from such construction.

The frog proper has a base, 18, which has bearing on the ties 19, and also on the bases of the rails, as seen at 21, Fig. II. The narrowing of the opening 17, it will be seen, narrows the base 18 at that side and renders this bearing upon the base of the rail at that side of greater importance than it would otherwise be.

The part 21 of the guard-rail 5 and the part 22 of the main rail are parallel with each other, and their bases may have side bearing against each other from the bend 3 to the bend 6, as shown, thus serving to brace the parts and give them stability.

I claim as my invention—

1. A railway-frog having a wider and narrower wheel-flange opening between the frog proper and the guard-rails upon the sides, substantially as and for the purpose set forth.

2. The combination, in a railway-frog, of the

frog proper, having a point, 9, two rails, 1 and 4, ending in guard-rails with bends 3 and 6, varying in distance from the point 9, and flange-openings of diverse width from each other at 5 the opposite sides between the frog-rails 7 8 and the guard-rails 2 and 5, substantially as and for the purpose set forth.

3. The combination, in a railway-frog, of the two guard-rails, the frog proper set nearer to

one guard-rail than to the other, and having to a base, 18, adapted to bear upon the ties and the rail-bases, substantially as shown and described, and for the purpose set forth.

HENRY ELLIOT.

In presence of—

SAML. KNIGHT,

BENJN. A. KNIGHT.