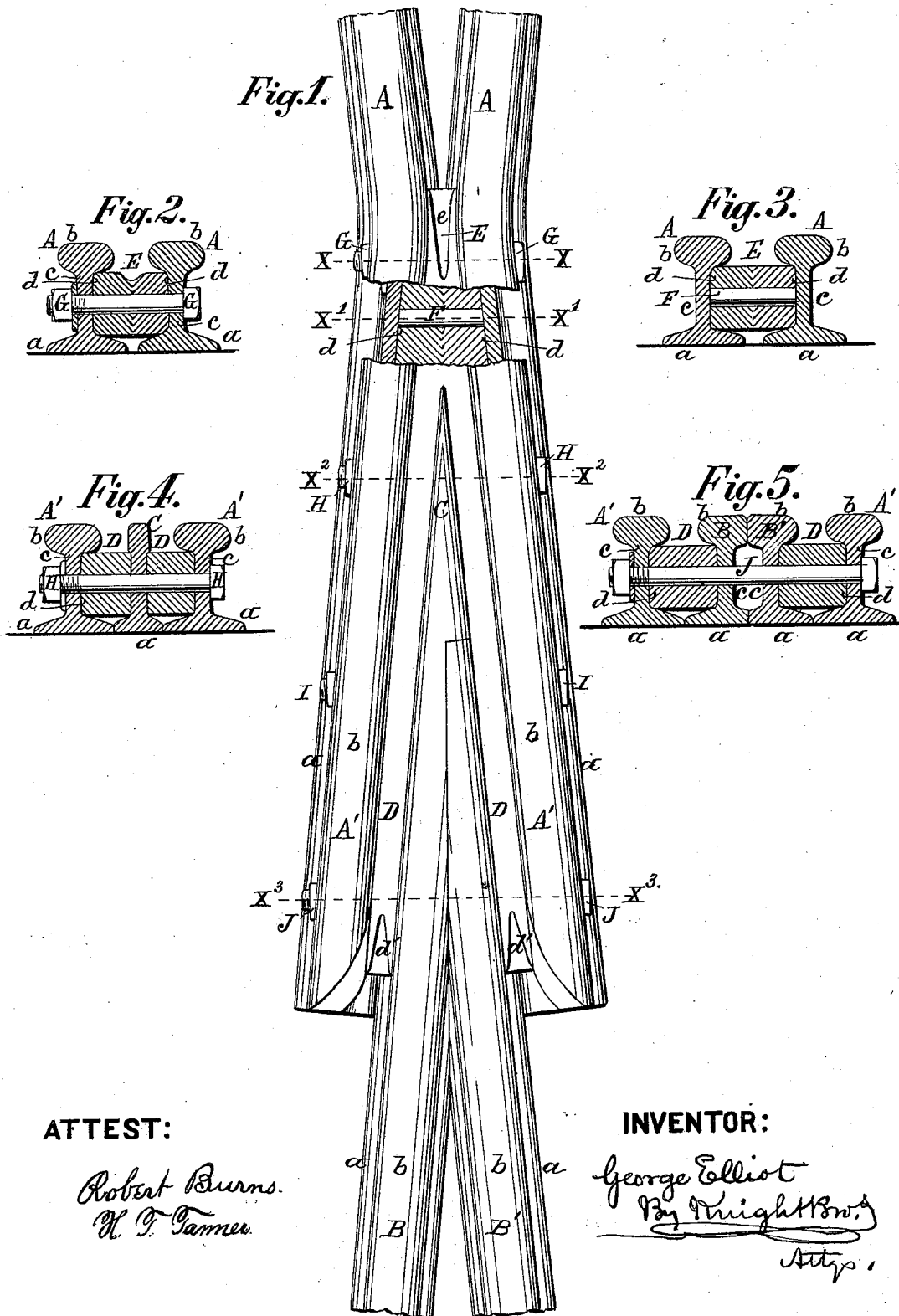


G. ELLIOT.
RAILWAY-FROG.

No. 170,537.

Patented Nov. 30, 1875.



UNITED STATES PATENT OFFICE.

GEORGE ELLIOT, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RAILWAY-FROGS.

Specification forming part of Letters Patent No. **170,537**, dated November 30, 1875; application filed February 2, 1874.

To all whom it may concern:

Be it known that I, GEORGE ELLIOT, of St. Louis, St. Louis county, Missouri, have invented a certain Improvement in Railway-Frogs, of which the following is a specification:

My improvement consists in a **V**-frame having inclined grooves at each of its ends. It is made in one piece of wrought-iron, and extends lengthwise of the frog. It is also adapted to fit the channels formed between the base and top of the rails. The rails form a support to the frame, and the frame is rigidly secured to the rails by transverse bolts, the frame thus strengthening its supporting-rails. The grooves form guides for the flanges of the wheels passing on the frame. This construction of frog adapts it to be laid down on common ties.

In the drawings, Figure 1 is a top view of my improvement, part in horizontal section. Fig. 2 is a transverse section at $x x$. Fig. 3 is a transverse section at $x^1 x^1$. Fig. 4 is a transverse section at $x^2 x^2$. Fig. 5 is a transverse section at $x^3 x^3$.

A A are track-rails, ending at A' A' in wing-rails. The rails have bases a and heads b . B B' are track-rails, ending in a point, C. The rail B is carried through to the end of the point, and has a side recess or shoulder to receive the tapering end of the rail B'.

This arrangement of the rails is not claimed as new, my improvement relating to the means for holding the rails in position, and bracing the structure against vertical strains.

The bracing-frame consists of a **V**-formed piece of wrought-iron, extending a sufficient length to give rigidity to the frog, and having side bars D D and a tapering point, E, where the two side bars are welded together, and additionally secured by a transverse pin, F.

G, H, I, and J are bolts passing transversely completely through the frog to hold the rails to the sides d of the brace-frame D D E,

the said sides closely fitting in the side channels of the rails, formed by the head b , vertical web c , and base a .

The connection between this frog and the track at each end may be made by means of the usual fish-plate or other joint, as the ends A A and B B' are of common rail. This frog rests on the bases a of the rails, so that no peculiar arrangement of ties or sleepers is needed more than for the remainder of the track, there being no bed-plate as in ordinary frogs, which necessitates the cutting down or recessing of the ties or timbers for the reception of the plate.

At the ends of the frame D D E are inclined recesses or grooves $d' d' e$, which receive the flange of the wheel, said flange running upon the upper surface of the frame, so that violent collision of the tread of the wheel against the point C is avoided, because continuous bearing is given to the wheel in passing from the rails A A to the point; whereas in the ordinary frog the bearing is not continuous at that place, and so the wheels descend and the tread strikes violently against the point C and cause its rapid destruction.

I claim as my invention—

The **V**-frame D D E, having inclined grooves $d' d' e$, the said frame being constructed in one piece, adapted to fit in the side channels of the rails, and extending lengthwise of the frog, wholly supported by and rigidly secured to said rails by transverse bolts, and the said grooves adapted to guide the flanges of the wheels on the frame, substantially as and for the purpose set forth.

In testimony of which invention I have hereunto set my hand this 29th day of January, 1874.

GEORGE ELLIOT.

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.