

(No Model.)

F. C. WEIR.
RAILWAY FROG.

No. 332,980.

Patented Dec. 22, 1885.

Fig. 1.

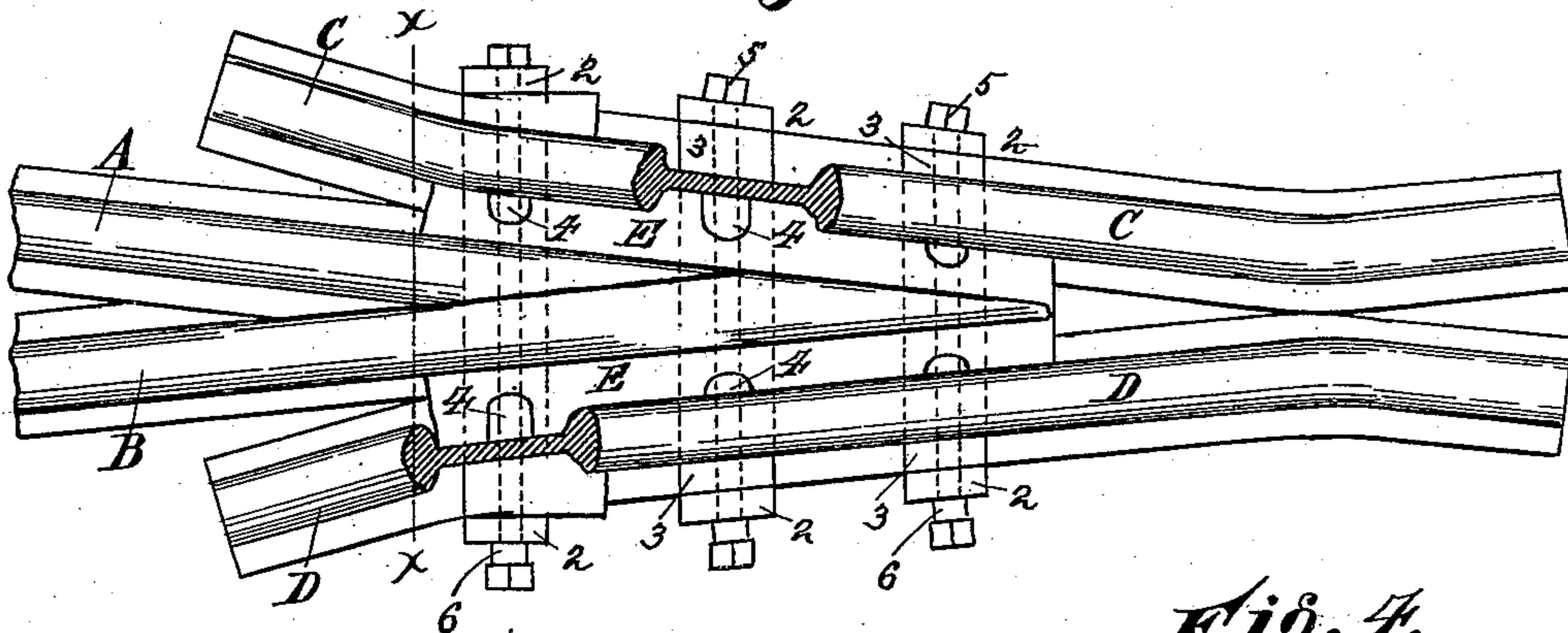


Fig. 4.

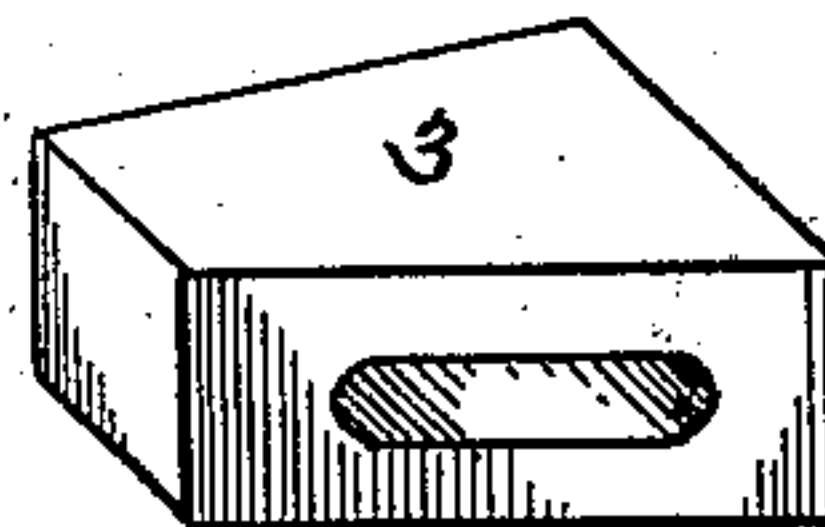


Fig. 2.

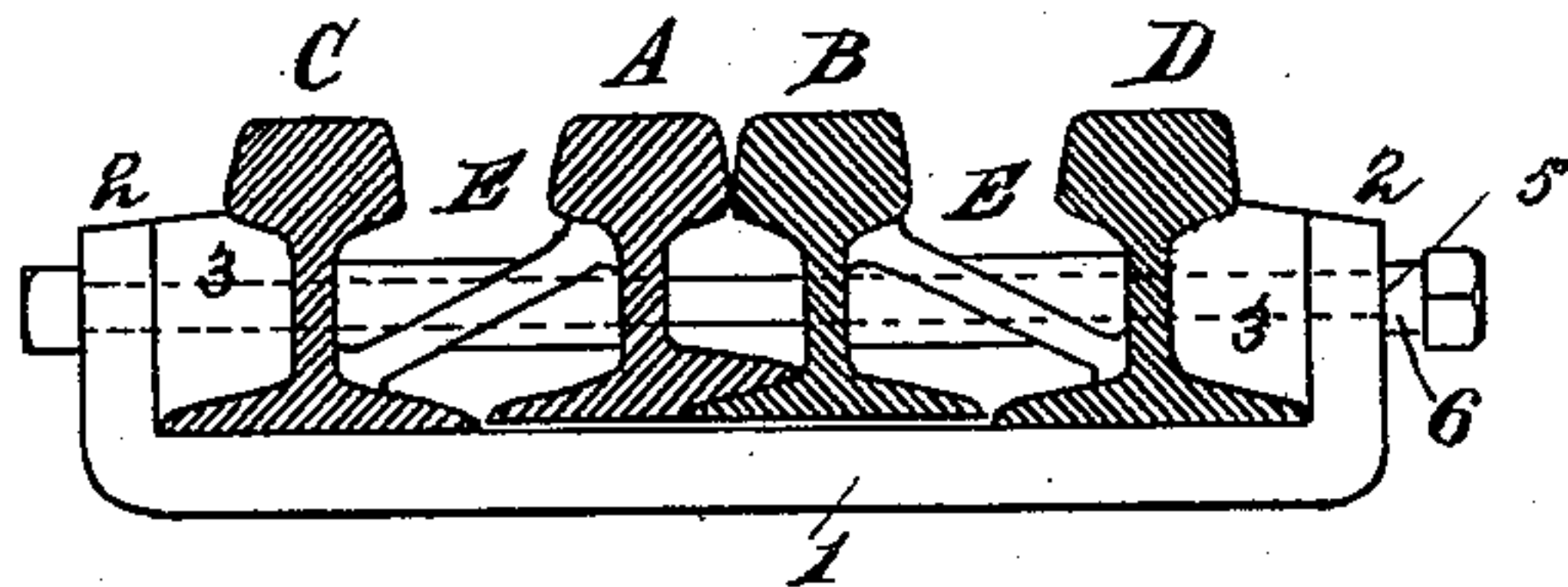
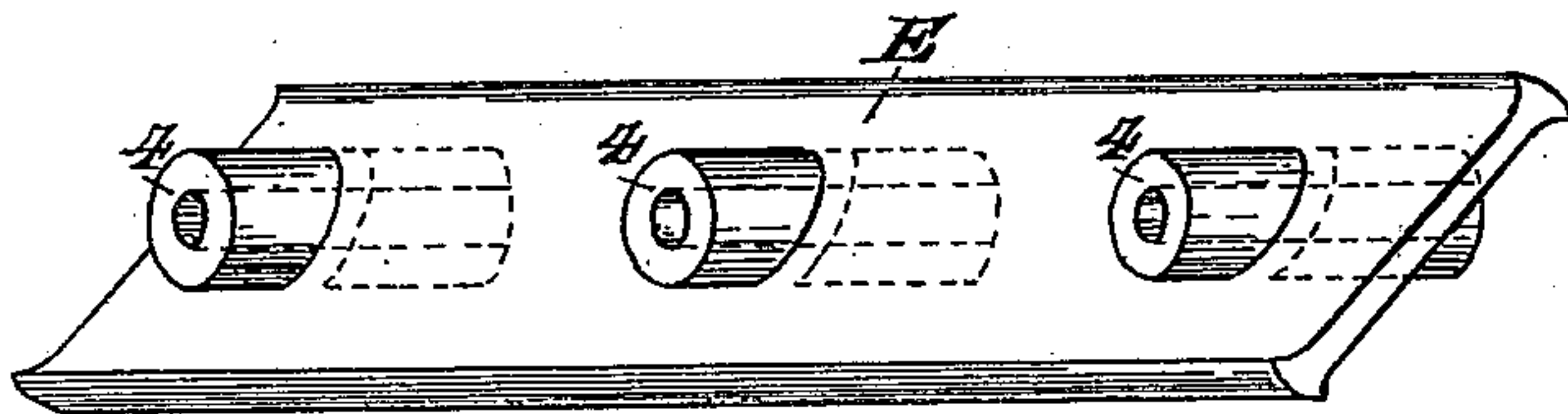


Fig. 3.



Attest

J. Waton Sims
Geo. S. Porbuck Jr.

Inventor
Frederic C. Weir

by Wood & Boja
his Attorneys &c

UNITED STATES PATENT OFFICE.

FREDRIC C. WEIR, OF CINCINNATI, OHIO.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 332,980, dated December 22, 1885.

Application filed October 8, 1885. Serial No. 179,355. (No model.)

To all whom it may concern:

Be it known that I, FREDRIC C. WEIR, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification.

My invention relates to an improvement in railway frogs and crossings.

The object of my invention is to provide a better means for connecting the parts together and supporting the rails in a cheaper and better manner than by the methods hitherto employed.

Another object of my invention is to employ brace-plates which, together with the rails, form an arch or a truss support for the point-rails.

Another object of my invention is to employ these brace-plates for filling and spacing plates, which, in connection with the wing-rails, form an arch or truss support to the point-rails.

Another object of my invention is to employ through-bolts in connection with the supporting straps and plates, which will firmly unite and hold all the rails in a cheaper and better manner than hitherto employed, all of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top plan view of my improvement with section broken off to show the parts; Fig. 2, a section on line *x x*, Fig. 1; Fig. 3, a perspective view of one of the brace or supporting plates, and Fig. 4 a perspective view of a modified form of filling-blocks.

A represents the short and B the long point of an ordinary railway-frog. These parts may be swaged, jointed, or fitted together in any well-known manner. The short point-rail is shown in Fig. 2 as swaged up, so as to rest upon the flange of the long point-rail, and this is the preferred form of uniting the parts.

C D represent wing-rails, which are bent to conform to the desired angle to serve as guards and main-track rails in the usual manner.

1 represents channel-shaped clamp-bars. 2 represents the flanges or sides of the same. The base of the rails rests upon these clamp-bars.

3 represents filling-blocks which abut against the wing-rails on one side and against the flanges of the clamp on the opposite side.

E represents brace-plates. Fig. 3 shows the preferred form of construction. One edge of these plates is shaped to fit against the head and web of the rail, as shown in Fig. 2, and the opposite edge fits against the web and flange of the wing-rail, occupying the inclined or diagonal position shown therein.

4 represents bosses or sleeves, preferably cast integral with these plates, through which sleeves holes are pierced sufficiently large to receive the through-bolt 5. These holes should be enough larger than the bolts to prevent the down-thrust upon the same, to obviate all danger of breaking or cutting off the bolts.

6 represents a nut-lock between the nut and flange 2, so as to prevent the nut from turning backward.

The brace-plates E, together with the web, flange, head, and clamp-bolt form a truss or arch support for the rails, and the filling-blocks 3, clamps 1, bolt 5, and brace-plates E form a very firm support for the wing rails D against the outward thrust by the impact of the car-wheels.

This form of constructing a frog employs a minimum amount of metal to a great advantage, and yet has sufficient elasticity to insure the durability of the structure.

I have shown the brace-plates E made of one piece and three clamps, 1, to bind the sections of the frog together.

It is evident that the parts E may be made in sections without changing the principle of construction herein. So, also, a single clamp or channel bar, 1, of considerable length could be employed as a substitute for three, and still attain the principal results of my invention.

I have also shown the base of the point-rails to be slightly above the clamp-bars. This is the preferred form of construction, as it gives an increased amount of elasticity, takes up lost motion, and insures the impinging of the arched structure for lateral support.

In Fig. 4 and in the broken sections of Fig. 1 the filling-blocks 3 are shown of wedge shape, with a slotted or elongated bolt-hole. This is for the purpose of allowing the filling-block to be used as a key to tighten the clamp and structure.

I claim—

1. In combination with the wing-rail of a frog, an inclined support, E, serving as a spac-

ing and supporting plate between the wing and point rails, and bearing directly against the said wing and point rails, substantially as herein specified.

5 2. In combination with the wing-rails of a frog, the inclined bracing-supports E, placed between the two point and wing rails, substantially as herein specified.

10 3. In a railway frog or crossing, the inclined supports E, serving as spacing and arch or truss supporting plates for the point-rails, substantially as specified.

4. In combination with the wing and point rails of a frog, the clamp 1, filling-blocks 3, and inclined bracing-plates E, clamping and supporting the wing and point rails, substantially as herein specified. 15

In testimony whereof I have hereunto set my hand.

FREDRIC C. WEIR.

Witnesses:

JNO. L. ROEBUCK, Jr.,
ROBERT ZAHNER.