(No Model.)

W. H. WATERS.

RAILROAD FROG.

No. 270,521. Patented Jan. 9, 1883.

Fig. 1.

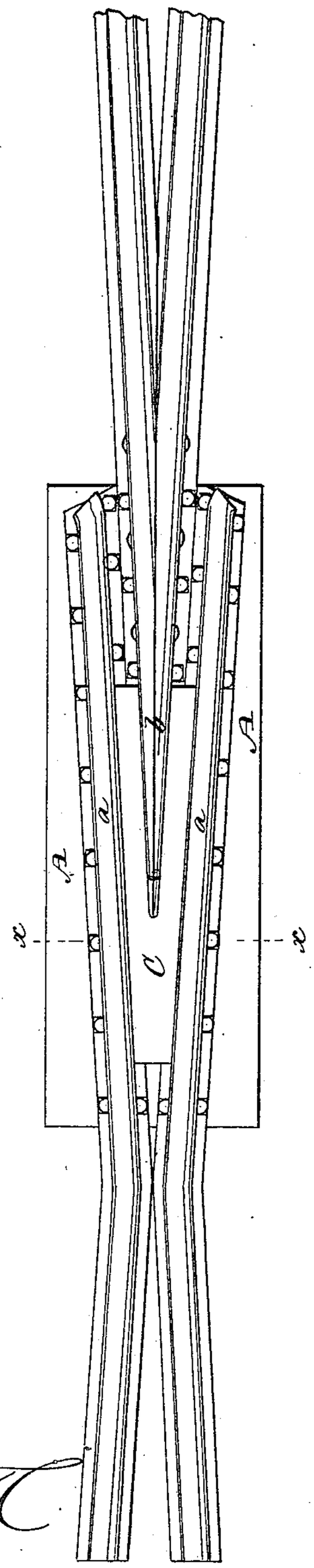
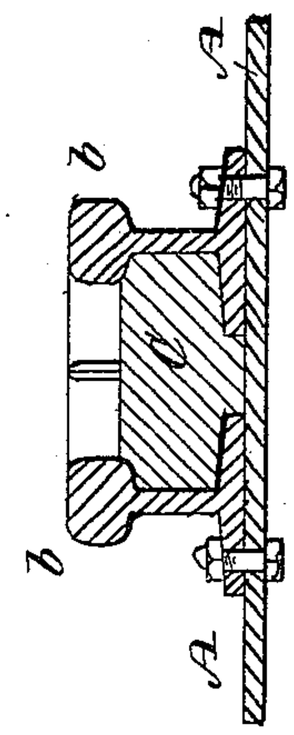


Fig. 2.



WITNESSES:

Thos. G. Hoster.

C. Sedgwick

INVENTOR:

W. H. Waters

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM H. WATERS, OF MUSKEGON, MICHIGAN.

RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 270,521, dated January 9, 1883.

Application filed April 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WATERS, of Muskegon, in the county of Muskegon and State of Michigan, have invented a new and useful Improvement in Railroad-Frogs, of which the following is a full, clear, and exact description.

My invention relates to the construction of frogs for railroad-switches, and has the object to obtain durability and to avoid the liability of breaking the flanges of the wheels while passing over the frog.

The invention consists in a filling of cast metal applied between the side rails of the frog and around the point, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of a frog of my improved construction. Fig. 2 is a transverse section on line *x x* of Fig. 1.

A is the frog-plate, to which the side or guard rails, *a a*, are riveted, as is also the point B between the guard-rails. C is a block or filling of cast metal, applied between the guard-rails *a a* and around the point B. This filling is applied by pouring the molten metal so that the block fits snugly beneath the heads of the guard-rails and to the flanges, and is thus retained securely in place. In pouring the metal it becomes chill-hardened by the surrounding iron, and is thereby rendered durable. The filling is also immovable, from the fact that it fits tightly. Consequently there is no rattle or movement when the train is passing over the frog. All bolts usually required for securing the filling-piece are dispensed with, and consequently the labor of keeping the bolts tight to prevent their displacement is avoided.

The guard-rails and point will not be riveted to the plate A beneath the filling-piece, so that in case one guard-rail should wear more rapidly than the other it can be removed by cutting out the rivets and another rail put in its place.

I am aware that a method of filling blocks into railroad-frogs has before been described, in which a point of wrought metal being brought to a welding-heat, the melted metal is then cast thereon, and wings or guard-rails afterward bolted thereto. That is not my invention; but

What I claim, and wish to secure by Letters Patent, is—

In railroad-frogs, the combination, with the bed-plate A, having the guard-rails *a* and the point B, bolted or riveted thereto, of the block C, consisting of metal chilled by being poured while melted between said point and guard-rails while they are cold, said metal not uniting with the guard-rails or point, but leaving them free to be renewed, as shown and described.

WILLIAM H. WATERS.

Witnesses:

JOSEPH H. WHIPPLE,

W. H. STAUFFER.