

No. 788,386.

PATENTED APR. 25, 1905.

W. WHARTON, JR.
RAILWAY FROG.

APPLICATION FILED FEB. 23, 1905.

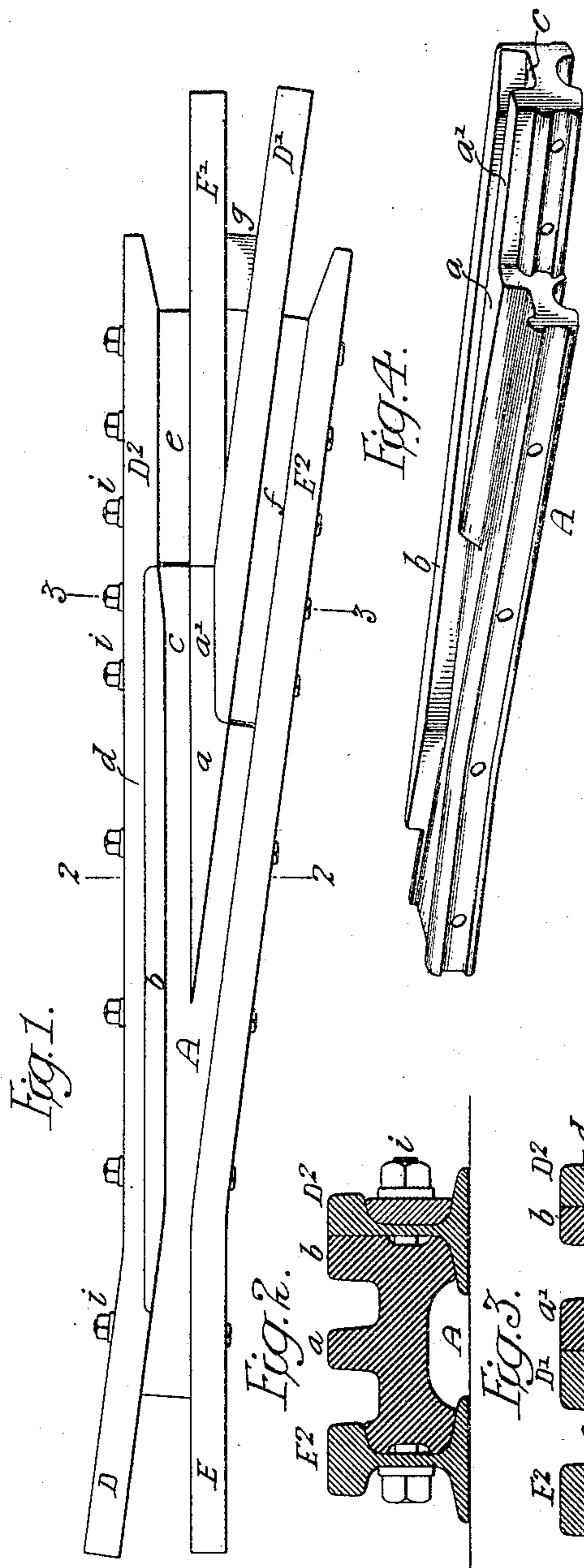


Fig. 3.

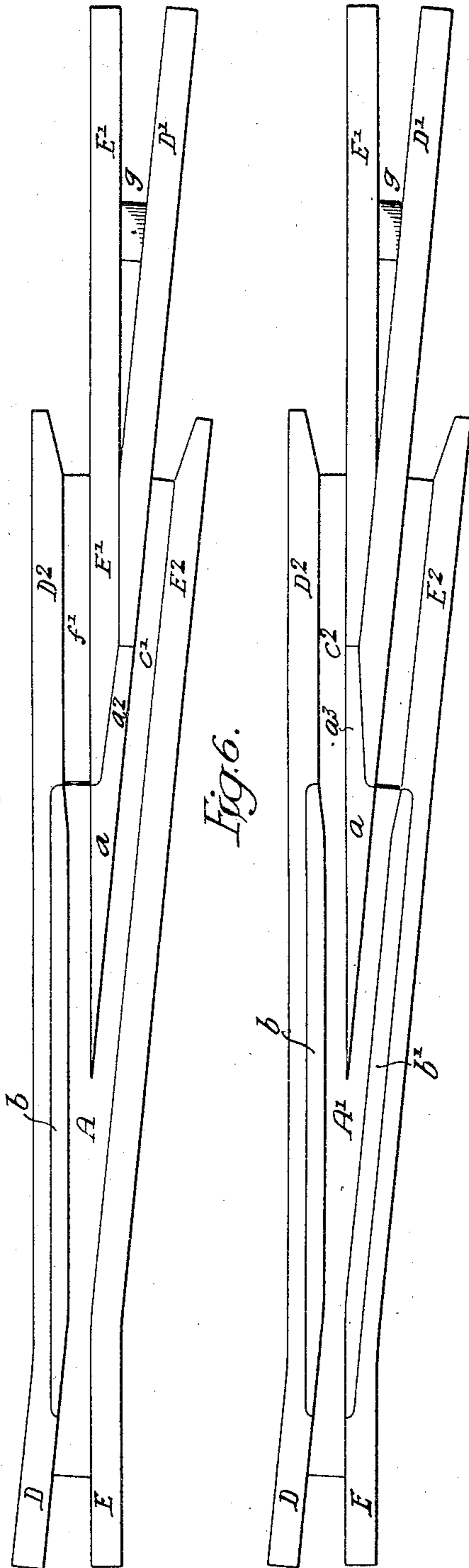


Fig. 6.

Witnesses:

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UNITED STATES PATENT OFFICE.

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RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 788,386, dated April 25, 1905.

Application filed February 23, 1905. Serial No. 246,933.

To all whom it may concern:

Be it known that I, WILLIAM WHARTON, Jr., a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Railway-Frogs, of which the following is a specification.

My invention relates to certain improvements in railway-frogs, in which a hard-metal center or body portion is combined with rails to make a frog structure.

The main object of my invention is to provide strong and durable joints between the heel of the hard-metal center or body portion and the adjoining rails, so that the said joints will be bridged; and a further object is to reduce the size and weight of the center, as fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved railway-frog. 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 detached perspective view of the center or body portion, and Figs. 5 and 6 are views of modifications of my invention.

A is a hard-metal center, preferably made of manganese steel, and, as shown in Figs. 1, 4, and 5, this center has a point *a* and a tread bearing portion or supplementary wing-rail *b* at one side of the point.

D D' are continuations of rails of the main track, and E E' are continuations of rails of a siding.

D² and E² are extensions of the rails D and E and form the wing-rails of the frog, the rail D² being recessed at *d* for the reception of the supplementary wing-rail *b* of the hard-metal center A; but the wing-rail E² has no hard-metal reinforcement, being entirely formed of T-rail in the usual manner. In this way the heavy travel of the main track is carried by the durable but very expensive manganese steel, while the light travel of the siding is sufficiently cared for by an ordinary Bessemer-steel wing-rail.

Projecting longitudinally from the heel portion of the center A is an extension there-

of, *c*, which, as shown in Fig. 1, has two vertical flanges, the inner flange *a'* being a continuation of the point *a* and the outer flange being a continuation of the supplementary wing-rail *b*. The flange *a'* is narrower than the heel portion of the point *a*, so as to form a step or recess for the reception of the tapered portion of the rail D', the end of which abuts directly against the heel of the point *a*, while the tapered portion of the rail E' rests against the side of the rail D', and its end abuts directly against the end of the flange *a'*. The joints thus formed are what may be termed "stepped" joints, and it will be noticed by referring to Fig. 1 that the joint between the rail D' and the point *a* is bridged by the flange *a'* and that the joint between the flange *a'* and the rail E' is bridged by the rail D', so that all car-wheels traversing the frog in any direction will be carried over these joints smoothly and without any jar, as the tread of the car-wheels is wide enough to extend outside of the actual joint and to run upon the bridges thus provided.

Mounted between the rail E' and the wing-rail D² back of the extension *c* is a filler *e*, and between the rail D' and the rear portion of the wing-rail E² is a filler *f*. These fillers fit snugly between the under part of the head and the upper part of the base of the T-rails; but they are enough below the top of the T-rails as to allow the flanges of the car-wheels ample clearance.

Between the rails E' and D' is a wedge-shaped filler *g* level with the top of the rails, but beveled downward at its outer end.

The several parts of the structure are secured together in the present instance by transverse bolts *i*; but other means of fastening the parts together may be resorted to without departing from my invention.

In Fig. 5 I have shown the stepped extension of the center A on the opposite side of the frog-point to that shown in Fig. 1, and I have continued the extension so as to dispense with one of the fillers. This extension is *c'*, and *a'*² is the vertical flange forming a continuation of the tread-surface of the point

a; but the base portion of the extension is continued beyond the end of this flange, so as to dispense with the filler on that side of the frog. A filler *f'* is mounted between the wing-rail *D*² and the rail *E'*. The joints between the heel of the hard-metal center *A* and the adjoining T-rails are in this case also bridged in a manner equally as efficient as that shown in Fig. 1.

In Fig. 6 I have shown the hard-metal center *A'* provided with two supplementary wing-rails *b* and *b'*, one upon each side of the frog.

In Figs. 5 and 6 I show the longitudinal extension of the heel of the point portion tapered toward its free end. This tapered shape of the extension is very desirable, for, in conjunction with the tapered ends of the rails *E'* and *D'*, it allows of the very best and strongest connection between the parts.

I claim as my invention—

1. A center for a railway-frog having a point portion with a longitudinal extension at its heel forming a continuation of one side only of the point, the said extension being tapered toward its free end, substantially as described.

2. The combination in a railway-frog, of a center having a stepped rear extension with two rails having tapered ends, the said rails being secured to each other and to the said extension so that the rail on one side will bridge the joint at the opposite side, substantially as described.

3. A center for a railway-frog having a point portion with a longitudinal extension at its heel or rear end forming a continuation of one side only of said point, in combination with two rails having tapered ends, one of said rails being mounted in advance of the other, the tapered end of the rail in advance being secured to one side of the said rear extension of the center, the tapered end of the other rail abutting against the end of the said extension, substantially as described.

4. A center for a railway-frog having a point portion with a longitudinal extension

at its heel or rear end forming a continuation of one side only of said point, in combination with two rails having tapered ends, one of said rails being mounted in advance of the other, the tapered end of the rail in advance being secured to one side of the said rear extension of the center, the tapered end of the other rail abutting against the end of the said extension, so that the joint on one side will be bridged by the said extension of the center, and the joint on the opposite side will be bridged by the rail which is in advance, substantially as described.

5. In a railway-frog, the combination of a hard-metal center having a point and a rear extension forming a continuation of one side only of said point, rails secured to each side of the said center, rails secured one in advance of the other at the heel of the hard-metal center, the rail in advance being attached to the side of the extension, the other rail abutting against the end of the extension, a filler or fillers mounted between the rails back of the center, and means for securing the parts together, substantially as described.

6. In a railway-frog, the combination of a hard-metal center having a point and one supplementary wing-rail only, with rails secured to each side of the said center, one of said rails being recessed to receive the said supplementary wing-rail, substantially as described.

7. In a railway-frog, a hard-metal center having a point formed with a longitudinal extension at its heel on one side only and having one supplementary wing-rail only, in combination with rails secured to each side of the said center, one of said rails being recessed to receive the said supplementary wing-rail, substantially as described.

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

WILLIAM WHARTON, JR.

Witnesses:

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JOS. H. KLEIN.