

No. 775,160.

PATENTED NOV. 15, 1904.

V. ANGERER.
RAILWAY FROG.

APPLICATION FILED JULY 19, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

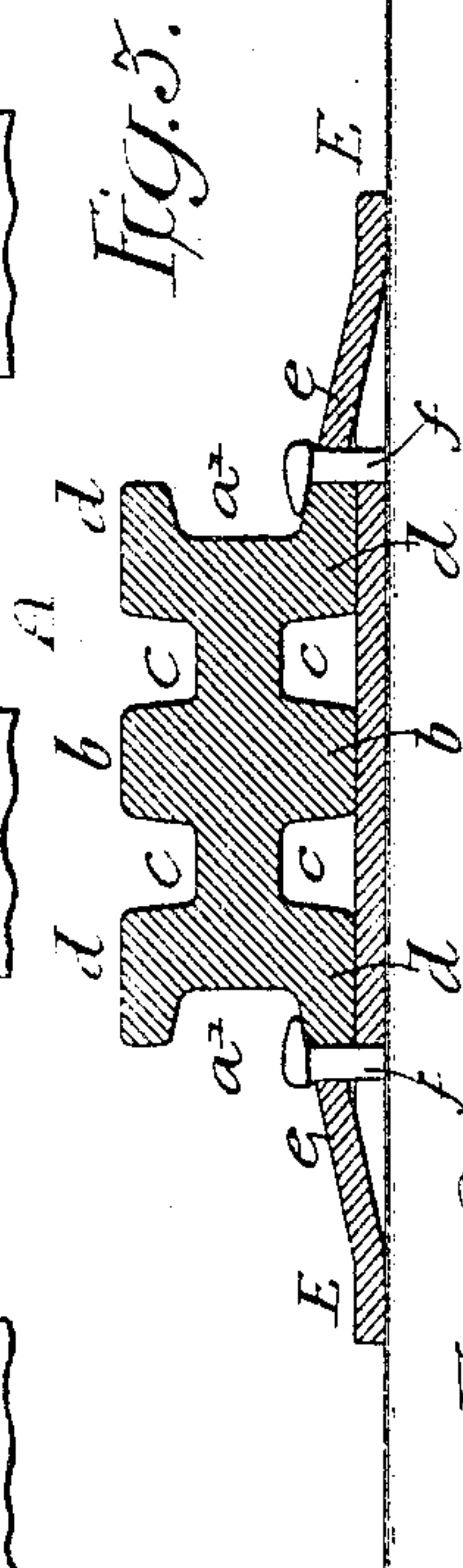
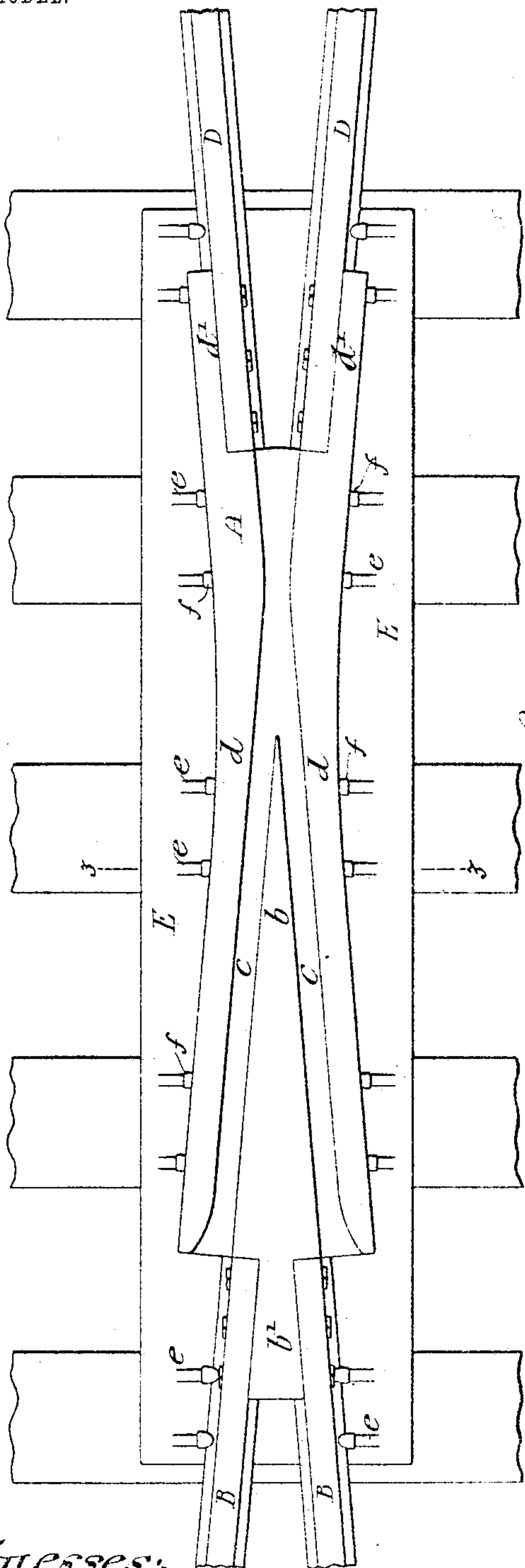
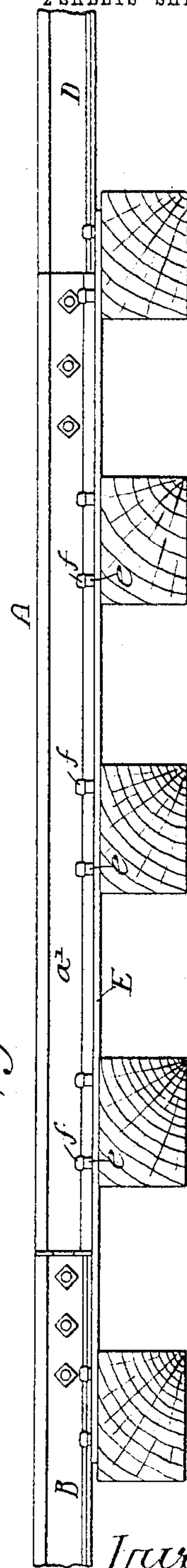


Fig. 2.



Witnesses:

Hamilton D. Turner

John H. Irons.

Inventor:

Victor Angerer
by his Attorneys,
Howard & Howard

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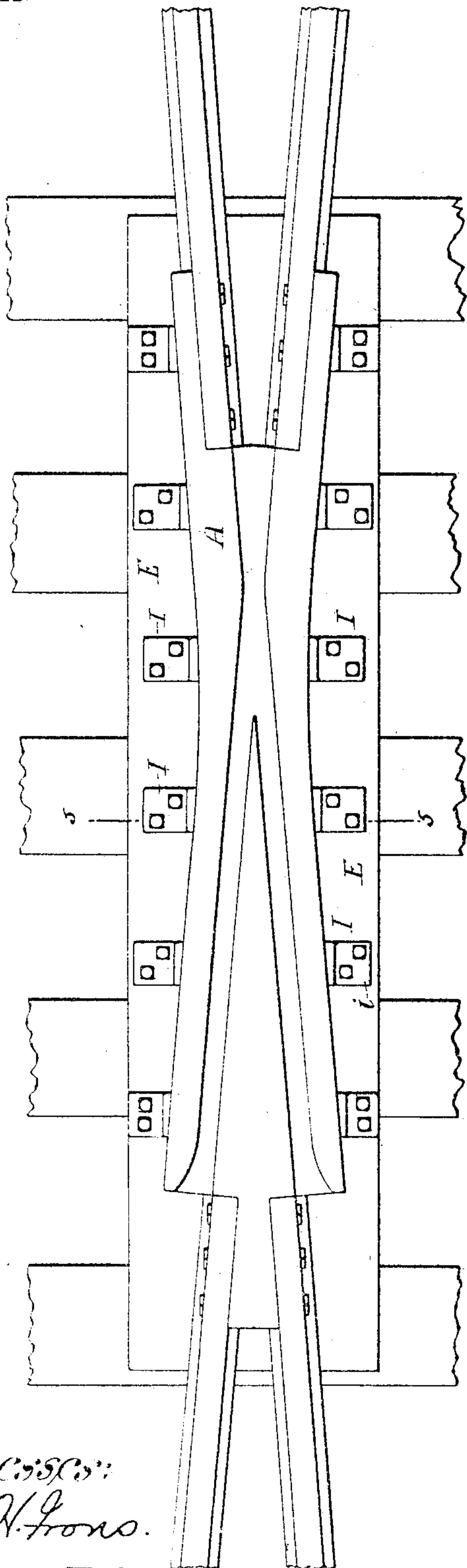
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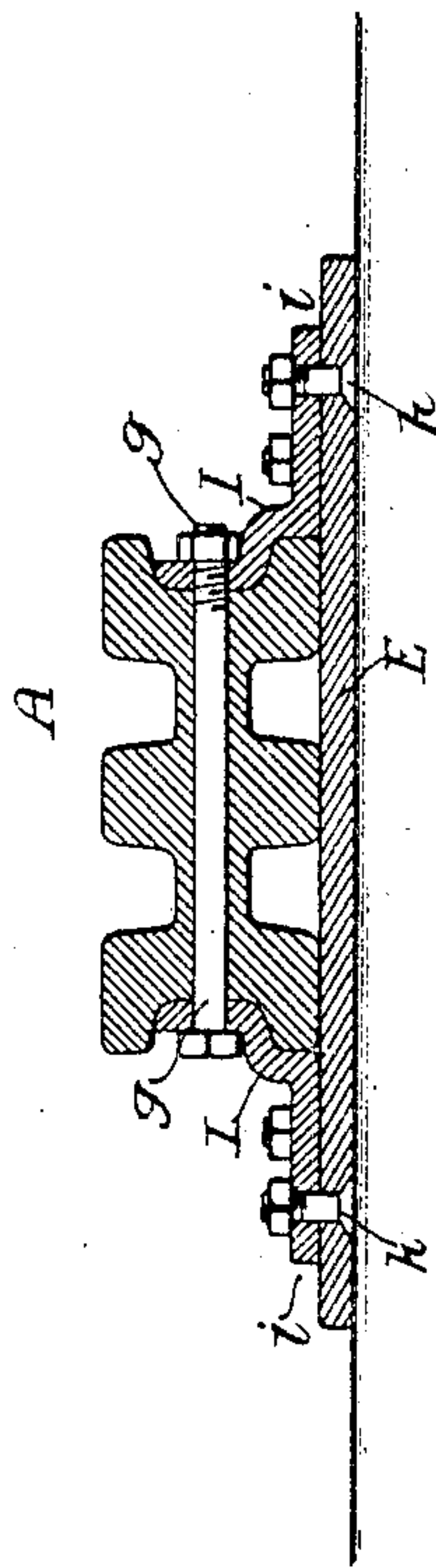
2 SHEETS—SHEET 2.

Fig. 1.



Witnesses:
Titus N. Gross.
Hamilton D. Turner

Fig. 2.



Inventor:
Victor Angerer
by his Attorneys,
Howson & Howson

UNITED STATES PATENT OFFICE.

VICTOR ANGERER, OF RIDLEY PARK, PENNSYLVANIA, ASSIGNOR TO WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 775,160, dated November 15, 1904.

Application filed July 19, 1904. Serial No. 217,227. (No model.)

To all whom it may concern:

Be it known that I, VICTOR ANGERER, a citizen of the United States, residing at Ridley Park, Pennsylvania, have invented certain
5 Improvements in Railway-Frogs, of which the following is a specification.

The object of my invention is to prevent the unequal wearing away or grinding into the under face of a reversible double-faced rail-
10 road-frog. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved railroad-frog. Fig. 2 is a side view. Fig. 3
15 is an enlarged sectional view on the line 3 3, Fig. 1. Fig. 4 is a plan view of a modification of the invention, and Fig. 5 is an enlarged sectional view on the line 5 5, Fig. 4.

A is a reversible frog made of cast metal,
20 preferably manganese steel, having its upper and lower surfaces similar, so that when the upper surface has become so much worn as to be unfit for further use the frog can be turned over or reversed, and its under surface will
25 then be uppermost and be brought into active service. On each surface of the frog is a point *b* and wing-rails *d d*, one end of each wing-rail section being recessed at *d'* for the reception of the track-rails D D, and these rails
30 are bolted or secured to the wing-rails in any suitable manner. The outer end *b'* of the point *b* is recessed on each side for the reception of the track-rails B B, which are bolted or secured to it in any suitable manner. The
35 point *b* is separated from the wing-rails *d d* by the grooves *c c*.

E is a metallic foundation-plate upon which the frog A is mounted, the said plate preferably extending somewhat beyond the ends of
40 the frog.

The frog is recessed on each side at *a'*, forming upper and lower heads corresponding to the heads of the track-rails, and is secured to the foundation-plate E by spikes *f f*, driven
45 into the cross-ties through perforations in the foundation-plate, the heads of the spikes overlapping the lower head of the frog, as shown in Fig. 3. I preferably form tongues *e e* on

the foundation-plate E by making incisions in it outward from the spike-holes and then
50 bending these tongues upward, so as to be in line with the upper surface of the lower head of the frog A. In this manner the spikes *f f* are reinforced close up under their heads against any outward lateral thrust of the frog,
55 as clearly shown in Fig. 3.

It is well known that when reversible frogs are supported upon cross-ties by the time the upper surface of the frog is worn out its lower face has become very uneven or ridged
60 by reason of the ties having worn up into it. This wearing into the under face of the frog is aggravated by sand or grit becoming embedded in the cross-ties, and when the frog is turned over the reversed surface is not fit for
65 use. The foundation-plate E obviates this serious objection, as it presents a large, even, and continuous bearing-surface for the frog A to rest upon throughout its whole length, and in addition to this the foundation-plate be-
70 ing of metal sand or grit will not become embedded in it, as it does in the softer surface of the wooden cross-ties. The wear of the under face of the frog is thus removed or at least reduced to a negligible minimum uni-
75 form throughout its length, so that when the frog is turned over the face of the lower head, which then becomes the upper or wearing head of the frog, will be in a good condition and without any of the transverse depressions
80 which would have been caused if the frog had been directly supported upon cross-ties.

In some instances it may be desirable to use clamp-plates or braces to secure the frog to the foundation-plate, as illustrated in Figs. 4
85 and 5. In such case the clamps I have a lateral extension *i* secured to the base-plate E by bolts *h*, while the upper part of the clamp bears against the outside portion of the frog and is secured thereto by transverse bolts *g*,
90 as shown in Fig. 5. There may be as many of these clamps or braces as desired, depending upon the length and weight of the frog.

It is evident that the frog A may be se-
cured to the foundation-plate E by other
95 methods than those herein specified without

departing from my invention, and therefore I do not limit myself to the particular means herein shown and described for that purpose.

I claim as my invention—

5 1. In a reversible frog, the combination of a frog structure having upper and lower heads or tread-surfaces with a foundation-plate supporting said frog structure, and adapted to act as a wear-plate to prevent uneven wearing
10 of the under face of the frog structure and reduce the wear to a minimum.

2. In a reversible frog, the combination of a frog structure having upper and lower heads or tread-surfaces, a foundation-plate support-
15 ing said structure, and adapted to act as a wear-plate to prevent uneven wearing of the under face of the frog structure and reduce the wear to a minimum, and means for securing the frog structure to the foundation-
20 plate.

3. In a reversible frog, the combination of a frog structure having upper and lower heads or tread-surfaces, a foundation-plate on which the said frog structure is mounted, and adapt-
25 ed to act as a wear-plate to prevent uneven

wearing of the under face of the frog structure and reduce the wear to a minimum, and spikes securing the frog structure to the foundation-plate and to the cross-ties, the said spikes passing through perforations in the
30 foundation-plate, substantially as described.

4. In a reversible frog, the combination of a frog structure having upper and lower heads or tread-surfaces, a foundation-plate having spike-holes with tongues projecting above the
35 surface of the plate, and spikes mounted between the upraised tongues and the frog structure; the heads of said spikes overlapping the lower head of the said frog structure, and the said upraised tongues reinforcing the spikes against lateral thrust, substan-
40 tially as described.

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

VICTOR ANGERER.

Witnesses:

HENRY C. ESLING,
JAMES McFETRIDGE.