

No. 719,453.

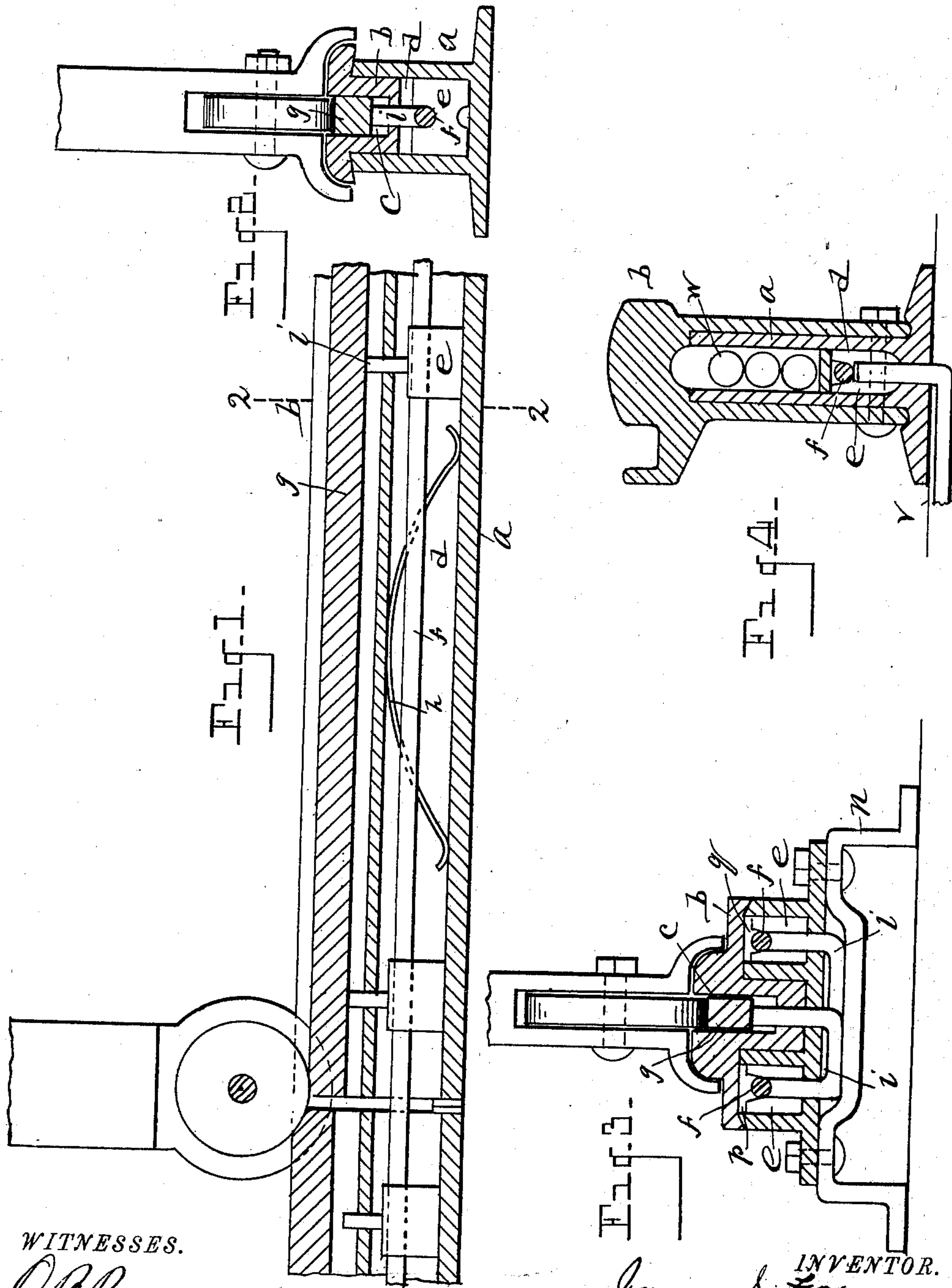
PATENTED FEB. 3, 1903.

J. S. FOX.
RAILWAY RAIL.

APPLICATION FILED JUNE 28, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES.

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J. M. Poland

INVENTOR.

James S. Fox
By Newell S. Wright

His Attorney

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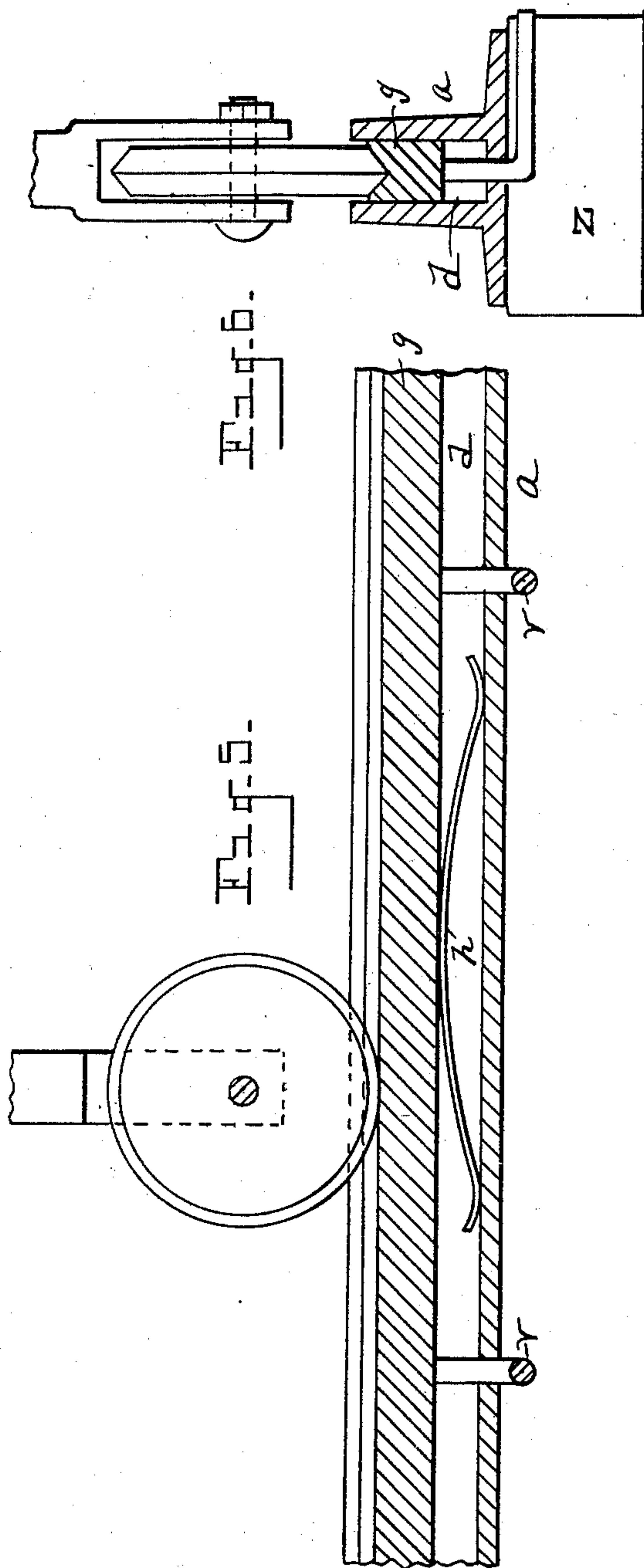
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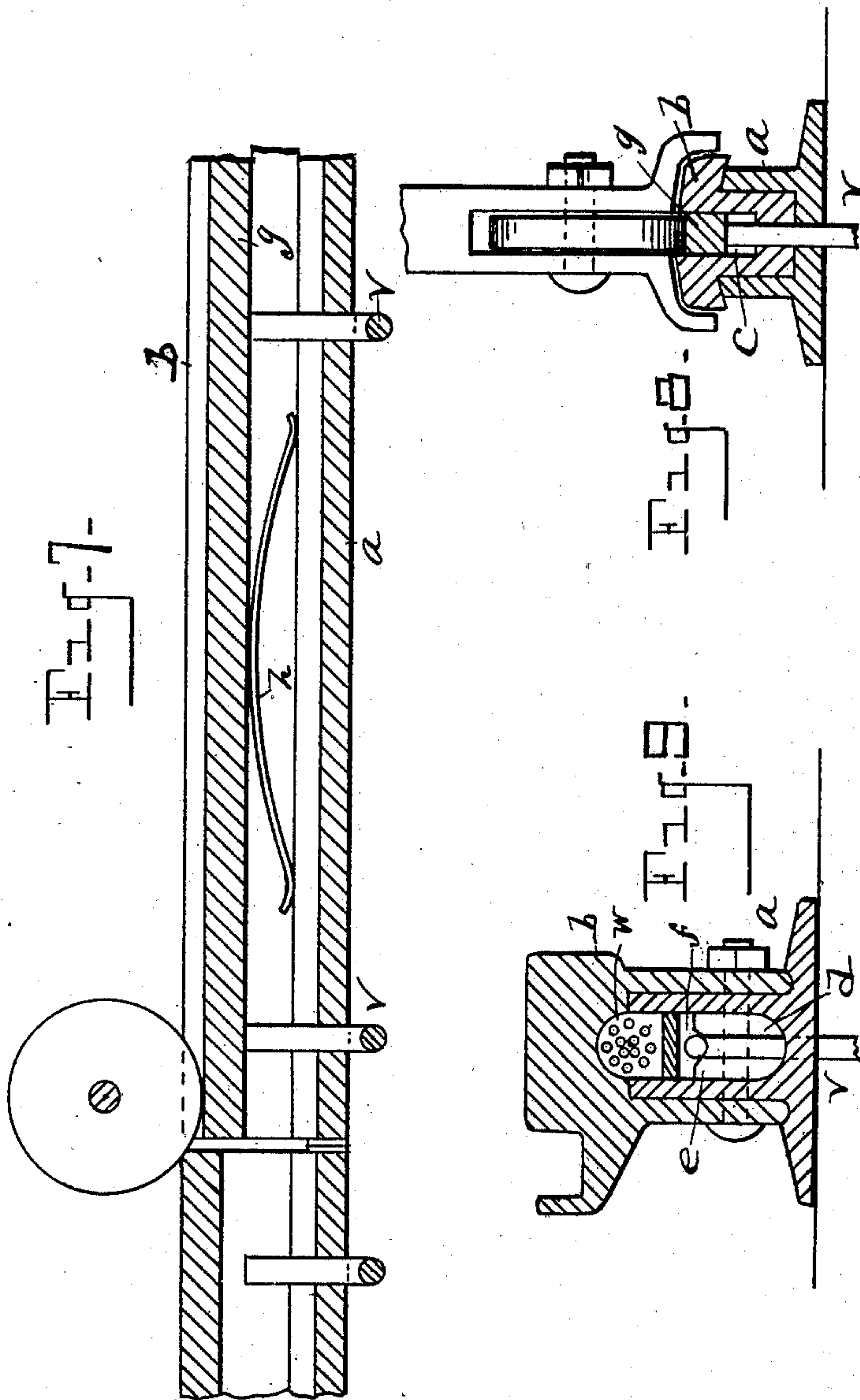
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JAMES S. FOX, OF JACKSON, MICHIGAN.

RAILWAY-RAIL.

SPECIFICATION forming part of Letters Patent No. 719,453, dated February 3, 1903.

Application filed June 28, 1902. Serial No. 113,584. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. FOX, a subject of the King of Great Britain, residing at Jackson, county of Jackson, State of Michigan, have invented a certain new and useful Improvement in Railway-Rails, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

This invention has reference to certain novel features in the construction of railway-rails, the same being more especially designed and adapted for use in a trolley system for electric railways constituting the subject-matter of a separate application filed of even date herewith, although the invention contemplates as coming within its scope any and all uses for which it may be found applicable.

The invention consists of the construction and combination of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in longitudinal section. Fig. 2 is a view in cross-section on the line 2-2, Fig. 1. Fig. 3 is a view in cross-section illustrating a modification. Fig. 4 is a view in cross-section illustrating a modification. Fig. 5 is a view in longitudinal section showing parts in elevation. Fig. 6 is a view in cross-section. Fig. 7 is another view in longitudinal section showing a modification. Fig. 8 is a cross-section thereof. Fig. 9 is a view in cross-section through a track-rail.

More especially the invention is designed to provide a rail to carry an electrical conductor insulated from the rail, together with a yielding or spring-actuated track, whereby electrical contact may be made between the track and the conductor when the track is depressed and whereby the track and rail will be out of the electrical circuit when the track is elevated in normal position.

The invention has more especially for its object a surface-rail for the purpose described, the same being applicable, preferably, for a third rail, although features of the invention may be applied to the construction of one of the track or side rails.

The main body of the rail is constructed of two parts—a channeled base *a*, constructed

with the customary flanges, preferably, whereby said base may be spiked to the ties, and with plural upright walls, and of an upper portion or cap *b*, recessed on its upper surface, as at *c*. The sides of the cap may extend over and rest upon the upper edges of the upright portions of the base, the bottom of the cap projecting downward within the base. When a conductor is to be carried within the base of the rail, said base is formed with a chamber *d*, in which may be located insulators *e* to carry a trolley-conductor *f*. The cap is recessed on its upper surface to carry a track *g*, running lengthwise of the rail, said track being supported upon one or more springs *h*, supported upon the lower portion of the cap beneath the track. The lower portion of the cap may be also perforated to receive contact-posts *i*, whereby electrical connection may be made between the conductor and the track when the track is in depressed position. The upper contacting surfaces of the base and the corresponding faces of the cap are preferably beveled to prevent the admission of rain within the chamber of the base.

As shown in Fig. 3, the base of the rail may be formed of plural chambers, as at *p* and *q*, whereby multiple conductors may be carried by the rail where increase of power is desired. In this case the lower portion of the cap may extend to the bottom of the corresponding chamber of the base, the bottom of the base being perforated to receive the arms of the U-shaped posts to form electrical contact between the track and the conductors. By constructing the rail with plural chambers for plural conductors provision is made for carrying any desired amount of electrical energy. A support *n* may be employed underneath the base of the rail and underneath said post.

In Fig. 9 a track-rail is shown wherein the cap is grooved to receive the flange of the wheel, the recess on its upper surface being omitted, the same, however, being recessed on its under surface and preferably fitting over its base. Within the chamber formed by the cap and the channeled base a cable-housing *w* may be provided to carry any desired number of cables for any required pur-

pose. Where the conductor f is carried by a track-rail, an additional conductor v is employed, contacting with the conductor at one end and leading to the track g of the third surface-rail.

In Fig. 4 is shown a similar construction to that illustrated in Fig. 9, a series of cable-housings w being provided.

When the conductor is carried by one of the track-rails, the third rail need not be provided with insulators, the bottom of the lower portion of the rail being perforated to allow the passage therethrough of the additional conductor v to contact with the track. Where the conductor is not carried by the third rail, the lower portion of the cap may reach to the bottom of the channel of the base.

Where conduits already exist, the main feature of the third rail may be applied therein. The cap of the rail might be dispensed with, as indicated in Figs. 5 and 6, the track g being supported on one or more springs carried within the chamber of the lower portion of the rail. In Fig. 6 a support z is shown between the tie and the third rail.

What I claim as my invention is—

1. A railway-rail embodying a channeled base, a recessed cap vertically perforated at the lower portion thereof, and a movable post extending through said perforation.

2. A railway-rail embodying a channeled base, a cap in the channeled base recessed on its upper surface and perforated at the lower portion thereof, and a yielding track in said cap.

3. A railway-rail embodying a channeled base, a cap recessed on its upper surface and perforated at the lower portion thereof and a yielding track carried in the recess of the cap, the bottom of the cap entering the channeled

base, said base formed with a chamber beneath the bottom of the cap.

4. A railway-rail embodying a channeled base, a recessed cap, and a track in the recess of the cap.

5. A railway-rail embodying a channeled base, a recessed cap, and a yielding track in the recess of the cap.

6. A railway-rail embodying a channeled base having plural upright walls, and a cap recessed on its upper surface, and a yielding track in said cap, said rail constructed with a cable-chamber immediately below the cap.

7. A railway-rail embodying a channeled base having plural upright walls, a cap recessed on its upper surface, a yielding track in said cap, and a cable-housing within said rail.

8. A railway-rail embodying a channeled base having plural upright walls, and a cap, the base of the rail provided with one or more perforations communicating with the channel thereof.

9. A railway-rail embodying a channeled base having plural upright walls, a cap recessed on its upper surface, and a yielding track in said cap, said base provided with lateral flanges whereby it may be spiked to the tie.

10. A railway-rail embodying a channeled base constructed with plural chambers, a cap covering said chambers and a yielding track in said cap.

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

JAMES S. FOX.

Witnesses:

N. S. WRIGHT,
J. M. POLAND.