(No Model.)

A. J. MOXHAM.

METALLIC CORED POST FOR STREET RAILWAY TRACKS.

No. 355,778. Patented Jan. 11, 1887.

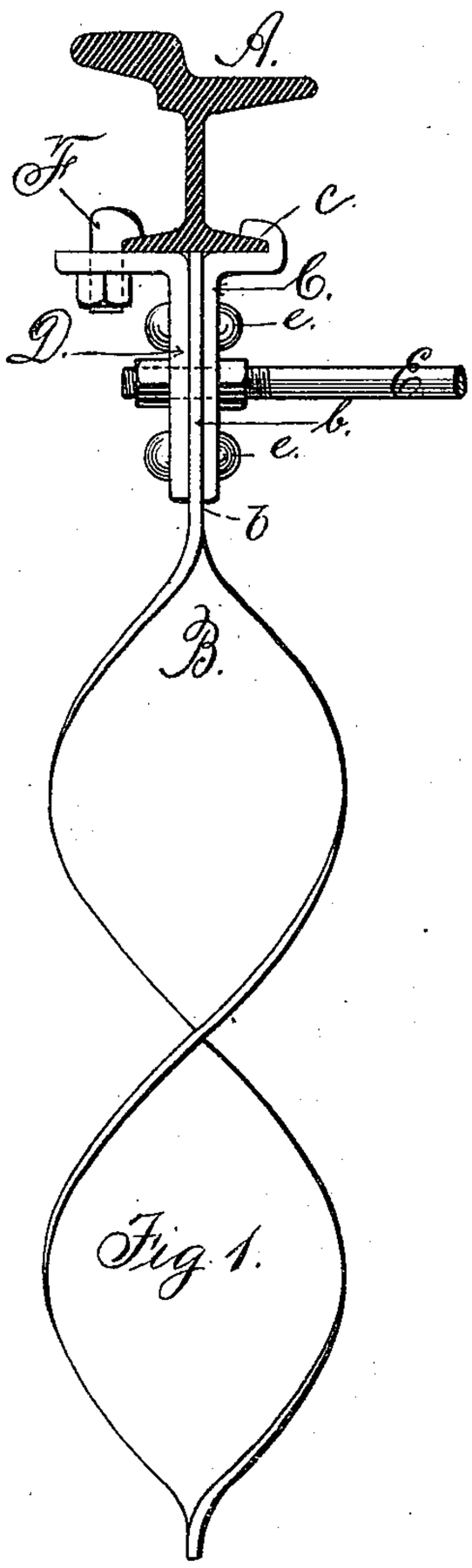

Fig. 1.

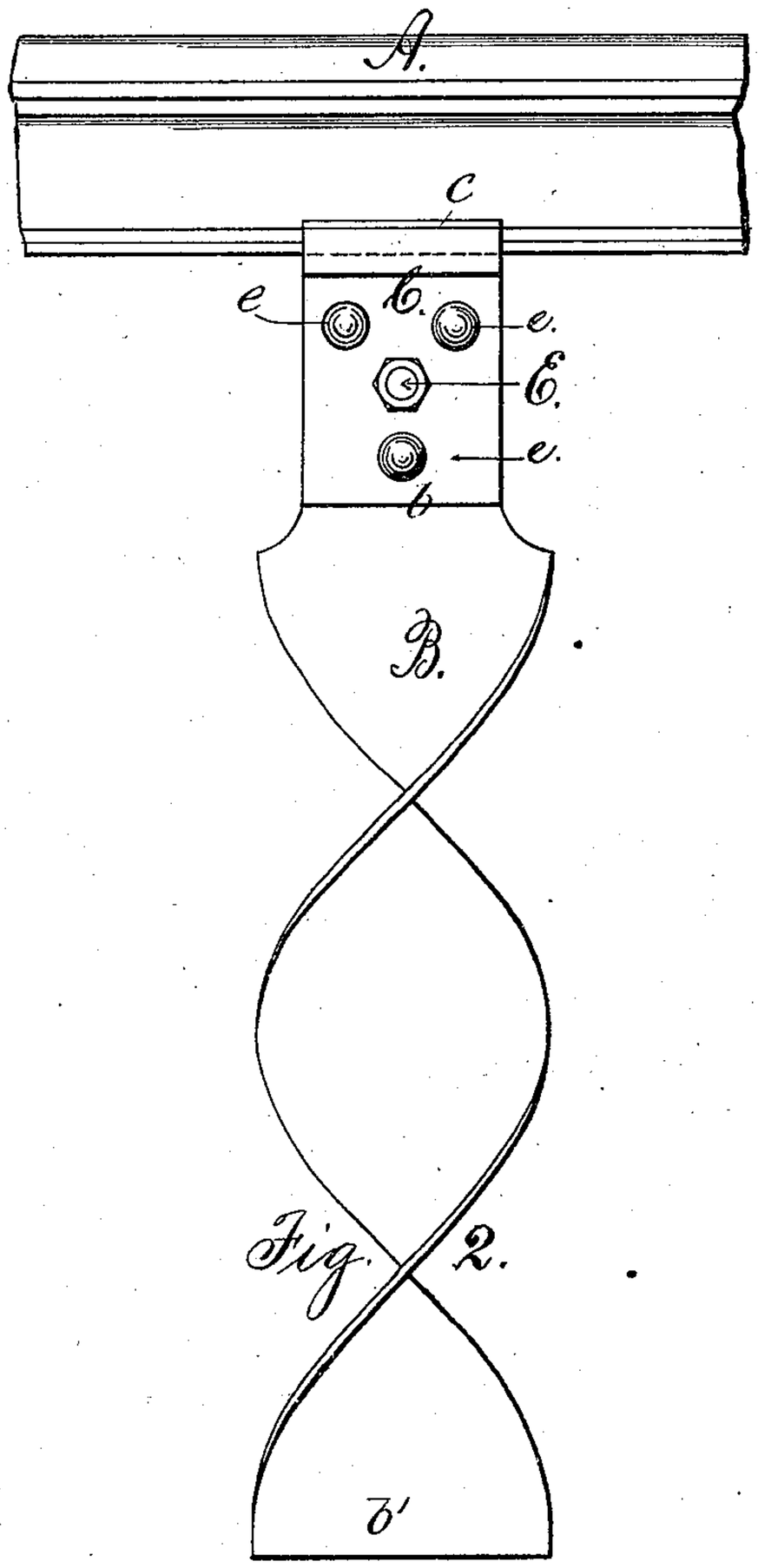

Fig. 2.

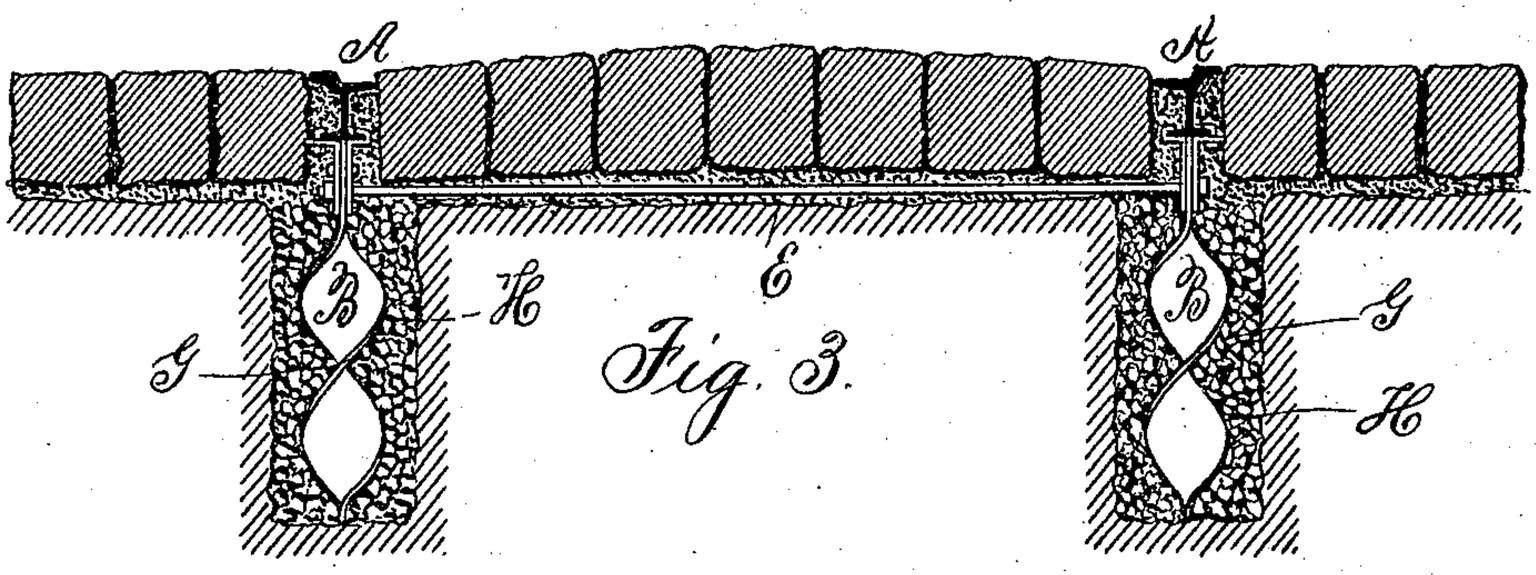

Fig. 3.

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UNITED STATES PATENT OFFICE.

ARTHUR J. MOXHAM, OF JOHNSTOWN, PENNSYLVANIA.

METALLIC-CORED POST FOR STREET-RAILWAY TRACKS.

SPECIFICATION forming part of Letters Patent No. 355,778, dated January 11, 1887.

Application filed February 19, 1886. Serial No. 192,498. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR J. MOXHAM, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Metallic-Cored Post for Street-Railway Tracks, which invention or improvement is fully set forth and illustrated in the following specification and accompanying drawings.

The object of the invention is to provide a series of metallic-cored posts at suitable intervals under the rails of the track, to which said rails or their chairs shall be secured in any suitable manner.

The invention consists of posts of concrete, or similarly-rammed materials, provided with cores of metal, as hereinafter described, and set forth in the claim.

In the accompanying drawings, Figure 1 shows in transverse section a rail mounted on a metallic core, through the intervention of angle-pieces forming a chair, with part of a tie-rod secured through said core and chair. Fig. 2 shows a side view of Fig. 1. Fig. 3 shows in cross-section the completed track and road-bed in which the track is set.

In said figures the several parts are indicated, respectively, by letters, as follows:

A indicates the rail; B, the metallic core, (shown in the drawings as consisting of a flat metal bar, preferably of steel, of, say, six inches width for most of its length, one-quarter inch thick, and twenty-four inches length.) The upper part of said bar is sheared to a width of about four inches of its length for from, say, five to eight inches from the top, according as circumstances may demand. In reducing this portion of the bar from six to four inches in width, equal amounts of metal are sheared from each side of the bar. Said bar, being then grasped in suitable chocks, or by other suitable means, at the parts *b b'*, is twisted, either cold or hot, by any suitable mechanism, into a spiral shape, such as is shown in the several figures of the drawings.

The letters C and D indicate two angle-pieces, of equal width with the upper and narrower portion of each spiral bar B, and so riveted to the same that the upper faces of said angle-pieces shall be flush with the upper edge of the spiral bar, the lower edges of said angle-pieces extending down to the part *b* of said bar where the twist commences. It is of advantage to have said angle-pieces extend down to said twist, because such construction adds considerably to the vertical stiffness of the completed spiral bar or core.

The rivets *e e* connect the angle-pieces to the spiral bar, and the tie-rod E connects the metallic cores on opposite sides of the track. The holes through which the tie-rod E passes are made somewhat larger than the diameter of said rod in order to allow for small irregularities in the parts which will in practice be encountered in making connections of the several parts. The tie-rod E is connected to the metallic cores B by means of nuts on either side of the angle-pieces C and D, as shown in Fig. 1, by which means said cores are brought and held to accurate gage.

The upper face of the angle-piece C is bent over in the form of a lip, which clamps one side of the lower flange of the rail A. The other side of said lower flange is held down by the hook-bolt F, passing through the upper face of the angle-piece D, and secured to said face by means of a nut under the lower side of said angle-piece, which screws hard up against said lower side, as shown in the drawings.

In constructing the track the method of procedure is as follows: Holes H, Fig. 3, are excavated at suitable intervals wherever the rails are to receive their support. These holes should be several inches larger in diameter than the diameter of the metal cores B. It is preferable that said holes should not exceed such depth as will bring the rail A to proper surface when the bottom edge of the metallic core rests upon the bottom of the hole. Longitudinal trenches of sufficient width to permit of the insertion and proper adjustment of the rails are then excavated between the holes H. At right angles to these trenches, and between each opposite and corresponding hole H, other trenches are also excavated to permit of the insertion of the tie-rods E. The metallic cores B are then attached to two opposite rails at such distances apart as will properly enable them to enter the holes H. The opposite rails are then laid in place and the cores B connected and brought to proper gage by the tie-rods E. The track is so far in a self-supporting condition. It is then prop-

erly surfaced and lined, a sufficient amount of ballast being thrown into the holes H to effect this purpose, but as little ballast being used as may be necessary therefor. The remaining space in the holes H is then filled up either with ordinary ballast thoroughly rammed or preferably with a concrete, G, as shown in Fig. 3.

The location of the tie-rods E may be changed somewhat from that shown in the drawings. It is preferable, however, that they should be located as near the surface as the nature and kind of paving will permit, the exact point being determined by the class of paving, due regard being paid to having said rods sufficiently below the normal point of wear of the paving to keep them from exposure at the surface.

It is not in practice always necessary to have the tie-rods attached to each pair of opposite posts, the number of tie-rods used being dependent upon the nature and extent of the street traffic to which the track is subject.

I do not limit myself to the special shape of core shown, though the twisted form shown is preferred as the cheapest and most efficient. Said cores, however, may be made of cast-iron, or may be roughened in various ways instead of being twisted, or may have angular branches or bars extended at the sides like roots, to insure firm hold in the concrete posts or packing. I do not limit myself to any particular material for such posts or packing, as any approved "metaling" or ballast or rubble or concrete may be rammed and packed around the cores to act as posts therefor.

I am aware that it has been proposed to embed metal stringers for track-rails in concrete-laid street-beds, and such I do not claim.

Having thus fully described my said cored posts, as of my invention I claim—

In a street-railway track, a series of sunken metallic-cored posts made, substantially as described, of concrete, rubble, cement, or similar rammed material, for thereon securing the rails of the track, and tied together laterally at suitable intervals, substantially as and for the purposes set forth.

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