No. 650,094. Patented May 22, 1900.

J. H. ROBERTSON.

TRACK AND CONDUIT CONSTRUCTION FOR UNDERGROUND ELECTRIC STREET RAILWAYS.

(Application filed Aug. 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

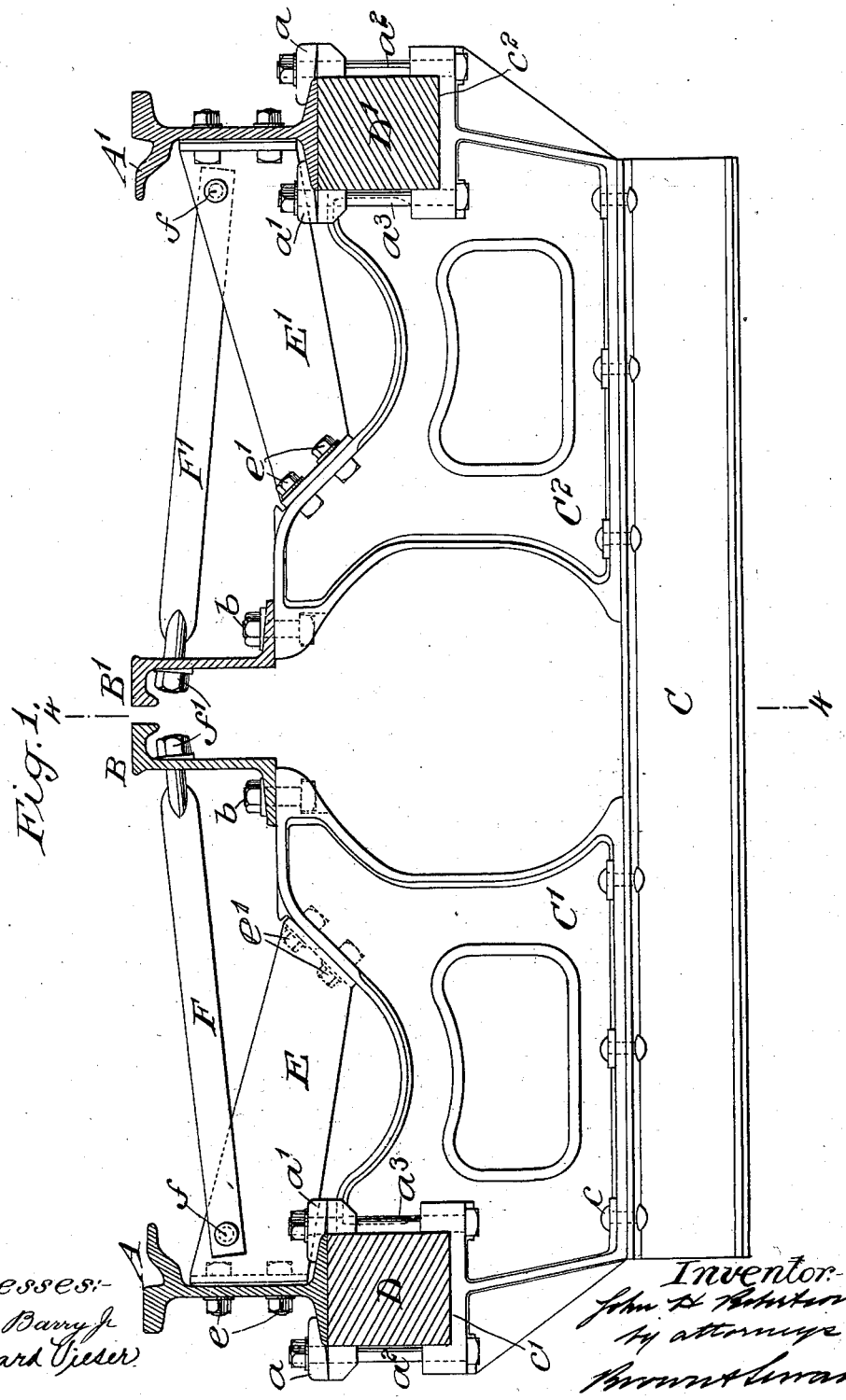

Fig. 1.

Witnesses:-
George Barry Jr.
Edward Vieser.

Inventor:-
John H. Robertson
by attorneys
Brown & Sherman

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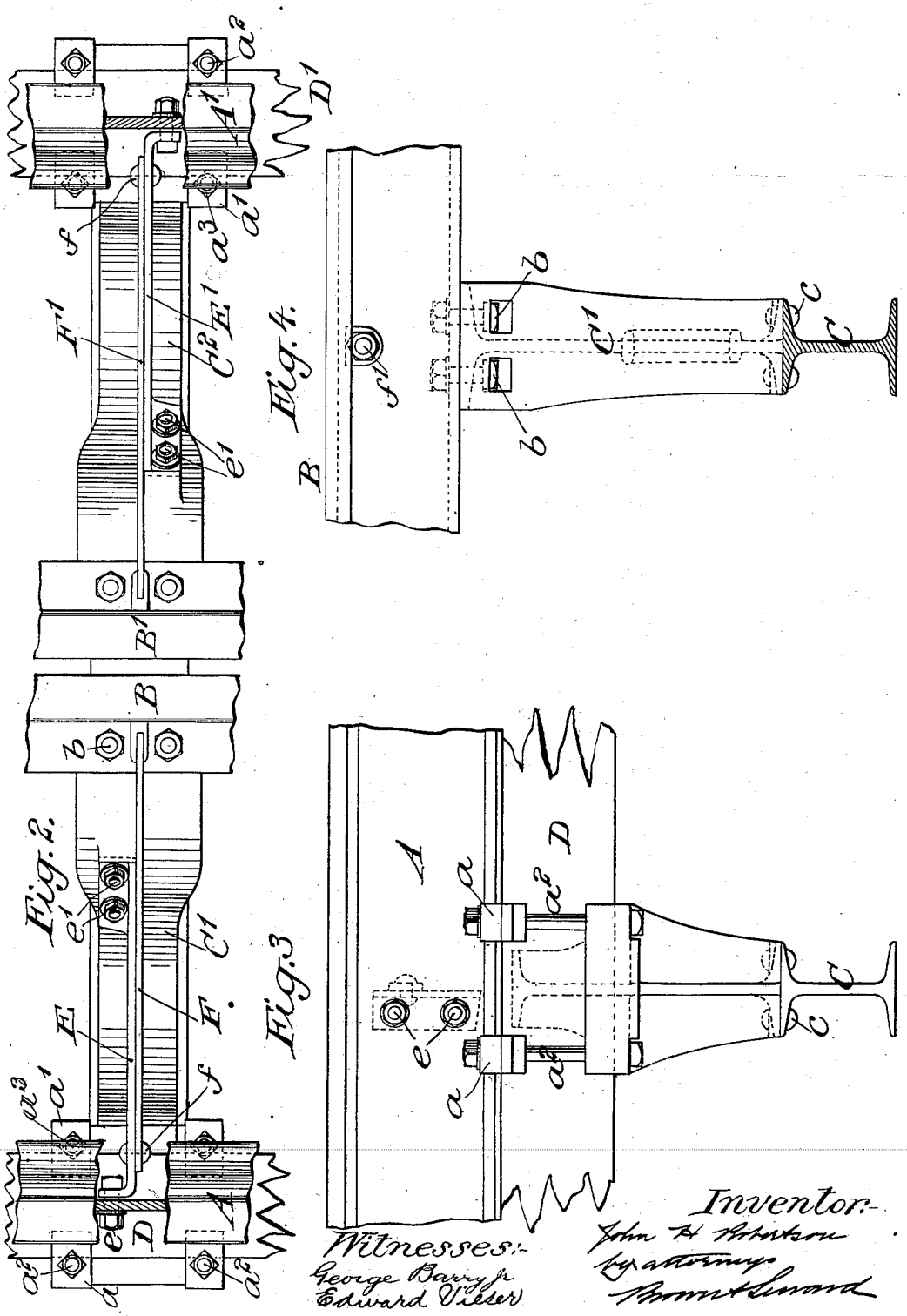

UNITED STATES PATENT OFFICE.

JOHN H. ROBERTSON, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS TO ALBERT J. ELIAS, OF SAME PLACE, AND LOUIS DUNCAN, OF BALTIMORE, MARYLAND.

TRACK AND CONDUIT CONSTRUCTION FOR UNDERGROUND ELECTRIC STREET-RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 650,094, dated May 22, 1900.

Application filed August 18, 1899. Serial No. 727,682. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. ROBERTSON, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Track and Conduit Construction for Underground Electric Street-Railways, of which the following is a specification.

My invention relates to certain improvements in track and conduit construction for underground electric street-railways whereby an easy-riding track is secured, which construction will be very strong, so as to successfully withstand the severe strains to which street-railway structures are subjected.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a vertical transverse section through the structure at a point adjacent to one of the yokes. Fig. 2 is a top plan view of the same. Fig. 3 is a view in side elevation, and Fig. 4 is a vertical longitudinal section taken in the plane of the line 4 4 of Fig. 1.

The track-rails are denoted by A A′, and the slot-rails of the conduit, which are located between the track-rails, are denoted by B B′.

The conduit-yoke is shown as comprising three pieces permanently riveted together—viz., an I-beam C, arranged transversely to the structure, and two side pieces C′ C^2. The I-beam C is preferably of steel, and the side pieces C′ C^2 are preferably made of cast-iron. The rivets for securing the side pieces to the I-beam are denoted by *c*, which rivets secure the top of the I-beam rigidly to the bottom of the said side pieces.

The slot-rails B B′ are secured to the tops of the side pieces C′ C^2 of the yoke by means of suitable bolts *b b′*, which pass through the faces of the said slot-rails and through a portion of the side pieces.

The outer upper ends of the side pieces C′ C^2 are provided with seats c' c^2 for the reception therein of longitudinal wooden stringers D D′, upon the top surfaces of which stringers rest the bases of the track-rails A A′. The bases of the track-rails are held in engagement with the tops of the stringers and the stringers clamped securely within the side pieces by means of pairs of clips *a a′*, which are engaged by pairs of bolts a^2 a^3. These wooden stringers D D′ are preferably of selected yellow pine creosoted and planed to size, so as to fit snugly in the seats in the side pieces.

Braces E E′ serve to rigidly space the track-rails A A′ from the side pieces C′ C^2. These braces E E′ are of a considerable depth and have extended bearings at their outer ends along the webs of the track-rails and extended bearings at their inner ends on the tops of the side pieces. Bolts *e* pass through the laterally-extended ends of the braces E E′ and the webs of the rails A A′ for rigidly securing the inner ends of the braces to the said side pieces.

Tie-rods F F′ serve to rigidly connect the track-rails with the slot-rails. In the present instance the outer ends of these tie-rods are riveted at *f* to the braces E E′ adjacent to the track-rails, and their inner ends pass through the webs of the slot-rails and are there held in position by nuts *f′*.

It will be seen that in the structure hereinabove described the track-rails rest upon the wooden stringers instead of directly upon the yoke, thus securing a very easy-riding track.

The two braces, one for connecting the track-rails with the side pieces of the yoke and the other for connecting the track-rails with the slot-rails, serve to produce a very simple and strong construction, the extended bearing which the braces which connect the track-rails with the yoke have with the said parts being of the utmost importance in producing a rigid structure.

What I claim is—

1. In a track and conduit construction, a pair of track-rails, a pair of slot-rails, a conduit-yoke, longitudinal stringers carried by the yoke for supporting the track-rails, braces secured to the yoke and to the track-rails and tie-rods for rigidly connecting the track-rails and slot-rails, substantially as set forth.

2. In a track and conduit construction, a pair of track-rails, a pair of slot-rails, a yoke

for supporting the track-rails and slot-rails, braces rigidly secured to the yoke and track-rails and tie-rods for connecting the track-rails with the slot-rails having their outer ends secured to the braces adjacent to the track-rails and their inner ends secured to the slot-rails, substantially as set forth.

3. In a track and conduit construction, a track-rail, a yoke for supporting the same and a brace rigidly secured to the track-rail and the yoke, the said brace having an extended vertical bearing along the web of the track-rail and an extended bearing along the top of the yoke, substantially as set forth.

4. In a track and conduit construction, a track-rail, a yoke, a longitudinally-extended stringer seated within the yoke in position to support the track-rail and a plurality of clips serving the double purpose of clamping the base of the track-rail to the top of the stringer and the stringer within the yoke, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 8th day of July, 1899.

JOHN H. ROBERTSON.

Witnesses:

WILLIAM H. MILLER,

ROBERT SPROUT.