

(No Model.)

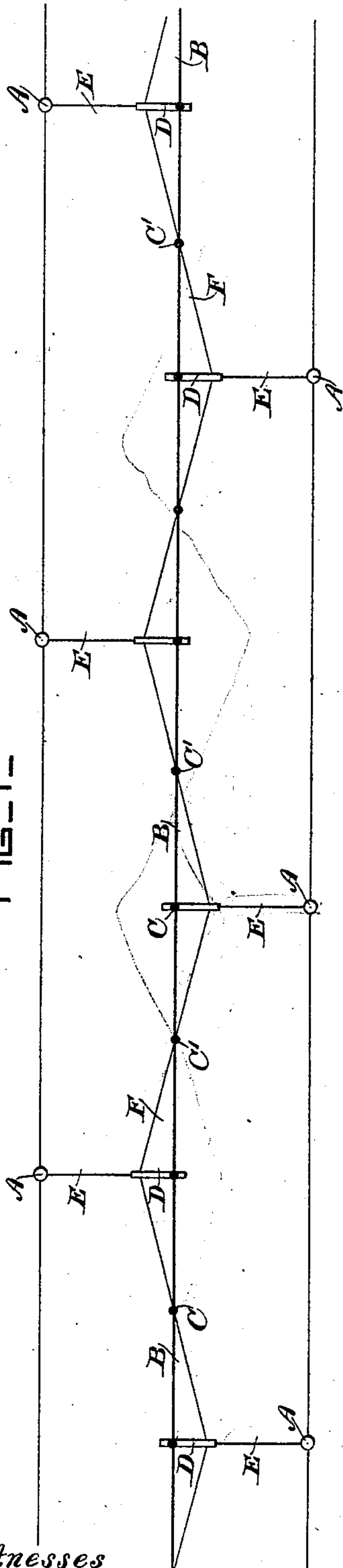
2 Sheets—Sheet 1.

J. C. HENRY.
OVERHEAD ELECTRIC RAILWAY.

No. 516,808.

Patented Mar. 20, 1894.

FIG. 1—



Witnesses
Wm. A. Coutland
A. C. Crue

FIG. 2—

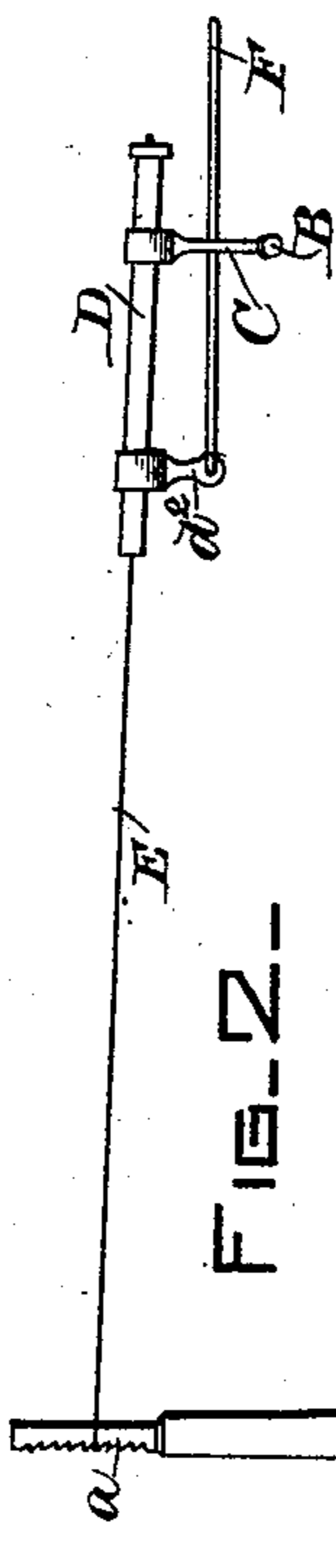
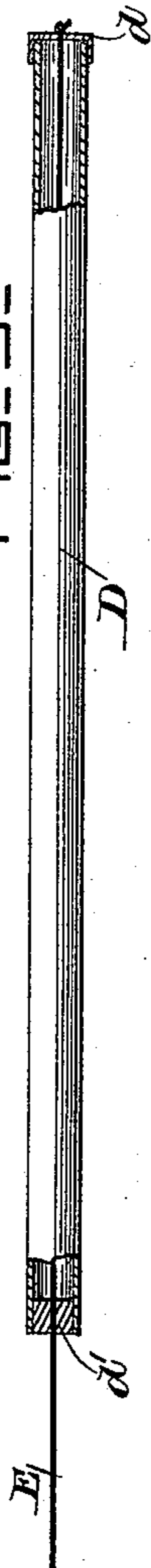


FIG. 3—



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John C. Henry
By Bentley & Sedgwick
Attys.

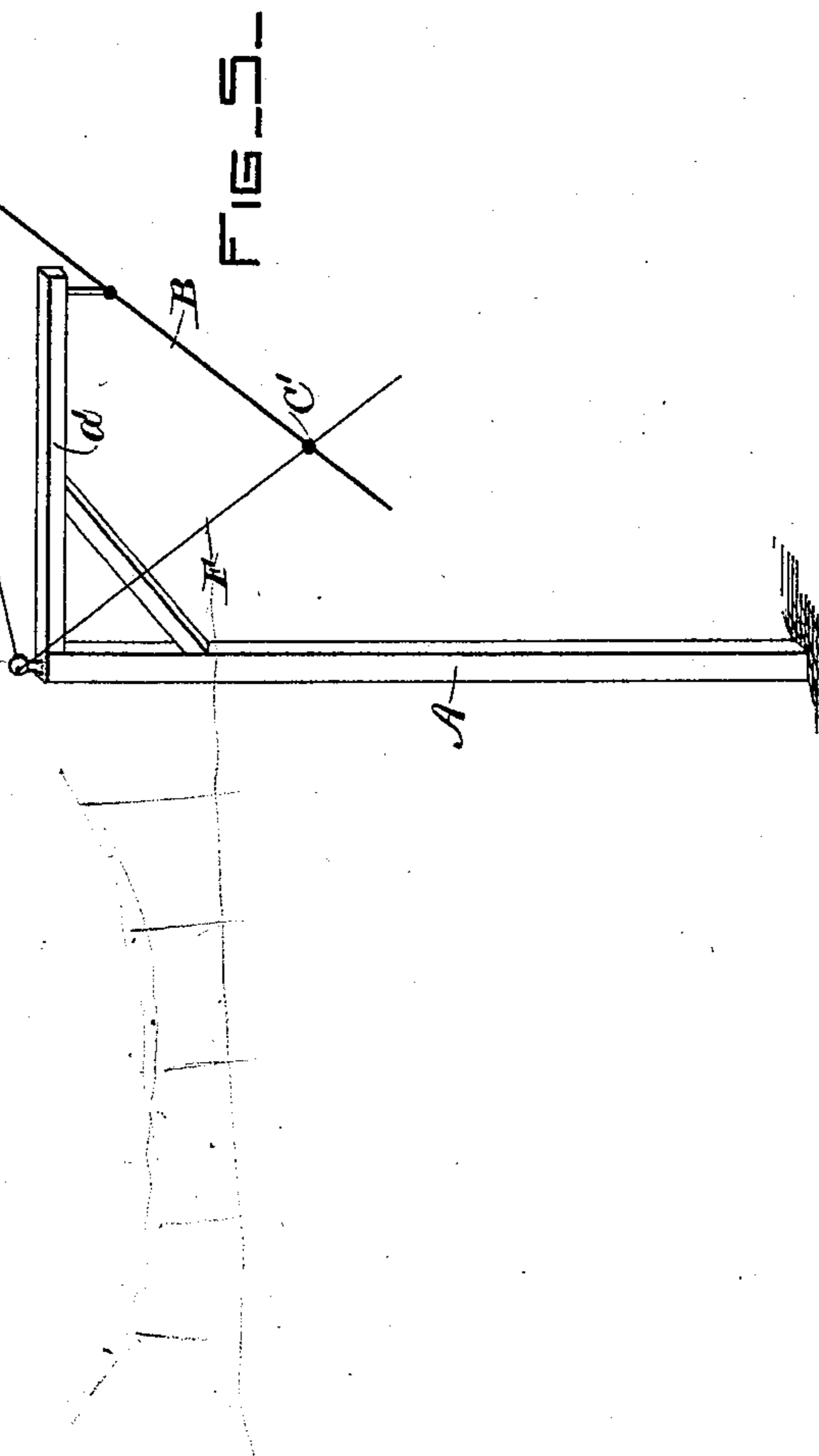
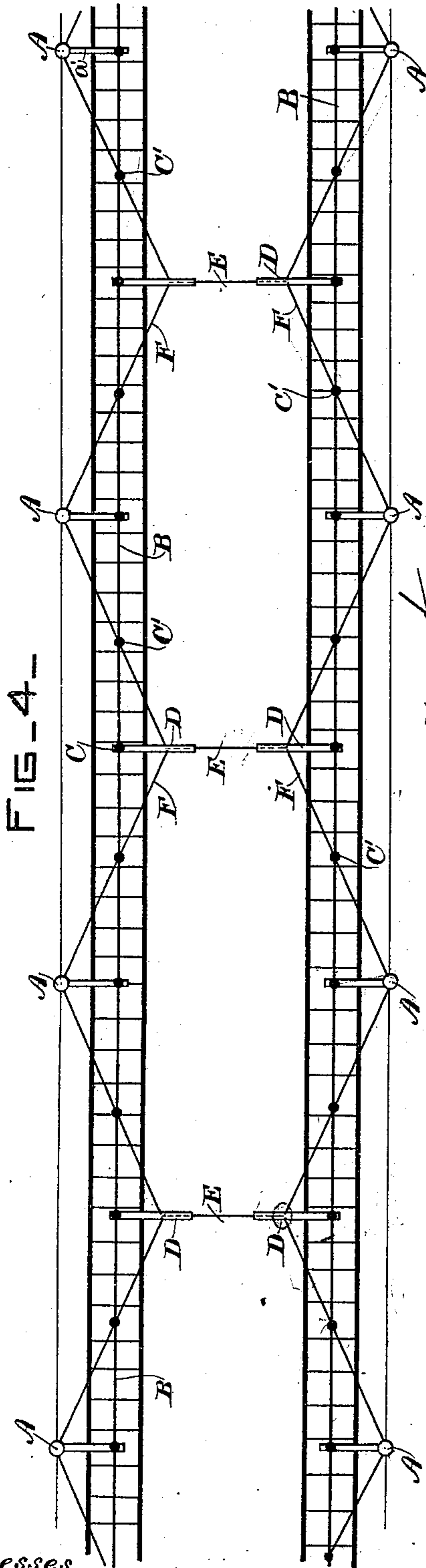
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2 Sheets—Sheet 2.

J. C. HENRY.
OVERHEAD ELECTRIC RAILWAY.

No. 516,808.

Patented Mar. 20, 1894.



Witnesses
Wm. A. Courtland
A. C. Orme

Inventor
John C. Henry
By Ramsey & Budge,
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UNITED STATES PATENT OFFICE.

JOHN C. HENRY, OF WESTFIELD, NEW JERSEY.

OVERHEAD ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 516,808, dated March 20, 1894.

Application filed March 8, 1893. Serial No. 465,147. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. HENRY, a citizen of the United States, residing at Westfield, county of Union, State of New Jersey, have invented a certain new and useful Improvement in Overhead Electric Railways, of which the following is a specification.

My invention relates to overhead electric railways, and its object is to lessen the number of poles, make a lighter and less unsightly structure, and cheapen the cost of construction.

Instead of placing the poles at distances of one hundred and twenty-five feet apart along the road, as is commonly done, I arrange them about five hundred feet apart. I thus dispense with three fourths of the poles ordinarily used.

In the drawings, Figure 1 is a plan of a portion of a street equipped for a single track. Fig. 2 is an elevation of a pole and a portion of the line. Fig. 3 shows the rigid support at the end of the guy wire. Fig. 4 is a plan of a double track construction, and Fig. 5 is a perspective view of a pole.

The poles A, A, A, are set on the lines of the curb, and are staggered, as shown, when a single track road is to be built. In the case of a double track road, the poles are set opposite each other.

The trolley wires B are suspended on insulating hangers C, which depend from a rigid support D, consisting of a metallic tube having a cap d at one end and a plug d' at the other; by this construction I attain at the same time lightness and strength. A wire E is firmly attached to the cap and passes through the tube and plug. In the single track construction, the wire is fastened to a pole A, as shown in Figs. 1 and 2. In the double track construction, the wire E is led to another tube D, through which it passes and to which it is attached, said second tube lying above the other track, and having a hanger for the trolley wire belonging to that track. To support the tubes, a guy wire F runs along each track crossing and re-crossing it in a zigzag manner. In the single track construction, the guy wire is attached at its angles to the tubes D, between the hangers C and the poles A, as by means of short arms

d^2 , rigidly secured to said tubes. At the points of intersection of the guy wire and trolley wire, the latter is suspended from the former by insulating hangers C'. The guy wire is tightly stretched, and, in connection with the transverse wires E, it holds the trolley wire B at a uniform height above the track. The wires E may be made vertically adjustable on the poles, as by means of an eye or loop catching in the teeth of an upright rack a . This provides for raising a low spot in the line, and for compensating for the settling of poles, or for slight difference in their heights. In the double track construction, the guy wires F run from a pole A to the arm d^2 on the tube D, and thence back to the next pole A, and so on. A rigid bracket a' on each pole assists in supporting the trolley wire.

What I claim as new, and desire to secure by Letters Patent, is—

1. A line structure for an overhead electric railway, comprising a trolley wire, rigid supports carrying insulating hangers for said trolley wire, a guy wire running in a zigzag course along the line of the trolley wire, and connected on one or both sides with said rigid supports, and poles for sustaining the aforesaid wires, substantially as described.

2. A line structure for an overhead electric railway, comprising poles set staggering on opposite sides of the track, a trolley wire, rigid supports carrying insulating hangers for said trolley wire, transverse guy wires connecting said rigid supports with the poles, and a zigzag guy wire attached at its angles to the rigid supports, substantially as set forth.

3. The combination with the poles, and the trolley wire, of transverse guy wires, metallic tubes fastened to the ends of said guy wires, and a zigzag guy wire attached to said tubes, substantially as set forth.

4. The combination with the poles and the zigzag guy wire, of the transverse guy wires attached to the poles, and the tubes having a plug at one end and a cap at the other, said transverse wires passing through the plugs and being attached to the caps, substantially as described.

5. A pole for an electric railway line structure.

ure carrying a vertical rack, for the adjustment of transverse guy wires, substantially as set forth.

5 6. The combination with a pole having a vertical rack, of a transverse guy wire having an eye or loop engaging with said rack, substantially as set forth.

10 7. In an electric railway the combination of a source of electricity, an overhead line conductor connected therewith, posts on opposite sides of the railway, a guy wire from which the line conductor is hung supported by said posts and flexible devices for applying a side strain to the guy wire whereby the guy wire
15 is made to zigzag back and forth over the line conductor substantially as set forth.

8. In an electric railway having double tracks the trolley wires supported from diagonal guy wires stretched in a zigzag manner

over the separate tracks, each guy wire being 20 alternately secured to poles and to the opposite guy wire.

9. In an electric railway having double tracks, a series of poles on the outside of the tracks, each pole carrying a projecting arm 25 from which the trolley wire is hung and supporting at its top diagonal guy wires which carry the trolley wires at their point of intersection.

10. A guy and trolley wire support stayed to 30 the poles under tension by transverse flexible connections as in Fig. 2.

In witness whereof I have hereunto set my hand this 21st day of February, 1893.

JOHN C. HENRY.

Witnesses:

L. M. WHITAKER,

A. C. FITCH.