

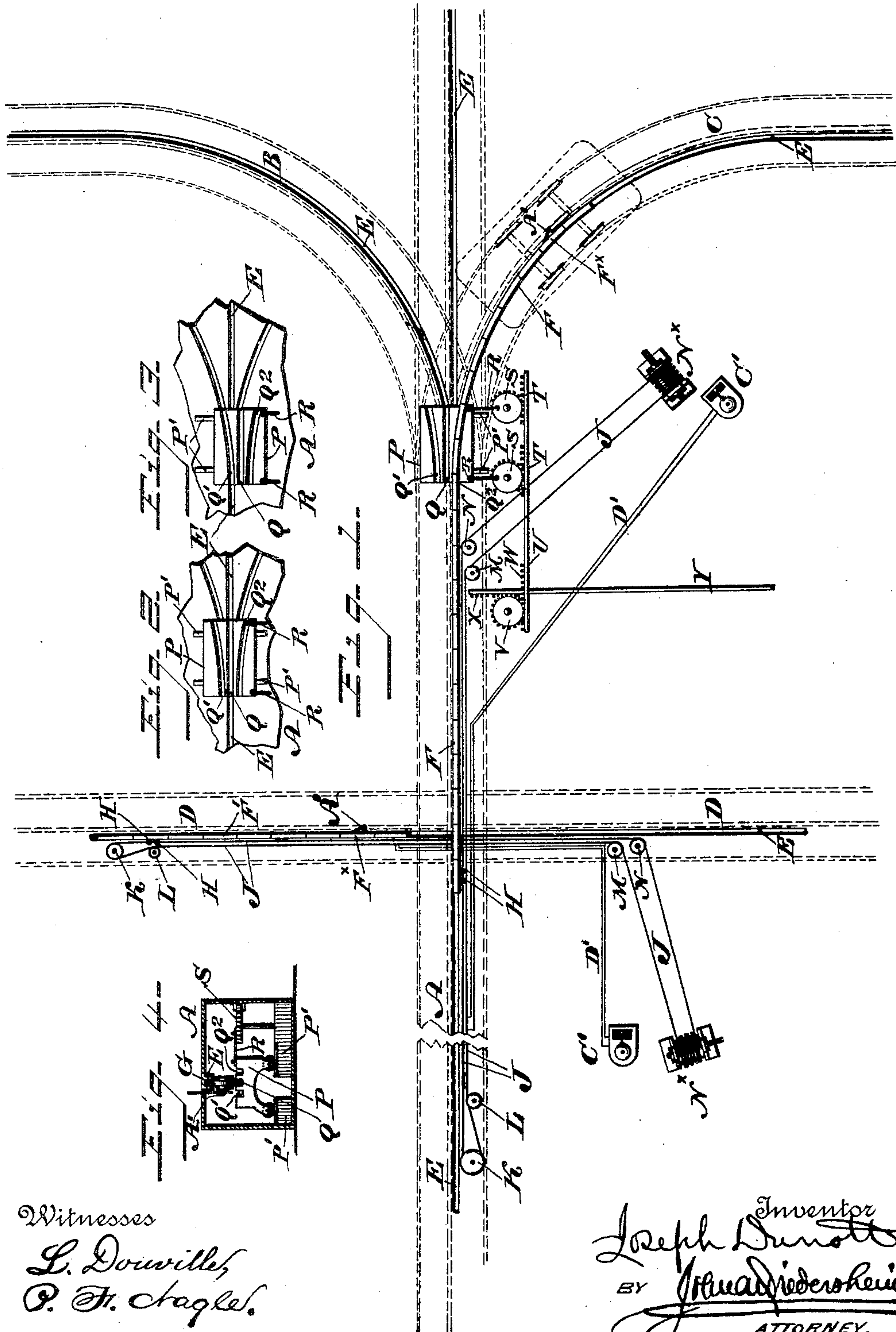
(No Model.)

2 Sheets—Sheet 1.

J. DUNOTT.  
CABLE CROSSING.

No. 460,912.

Patented Oct. 6, 1891.



Witnesses

L. Douville,  
P. H. Nagel.

Inventor  
Joseph Dunott  
BY *Alfred Friedersheim*  
ATTORNEY.

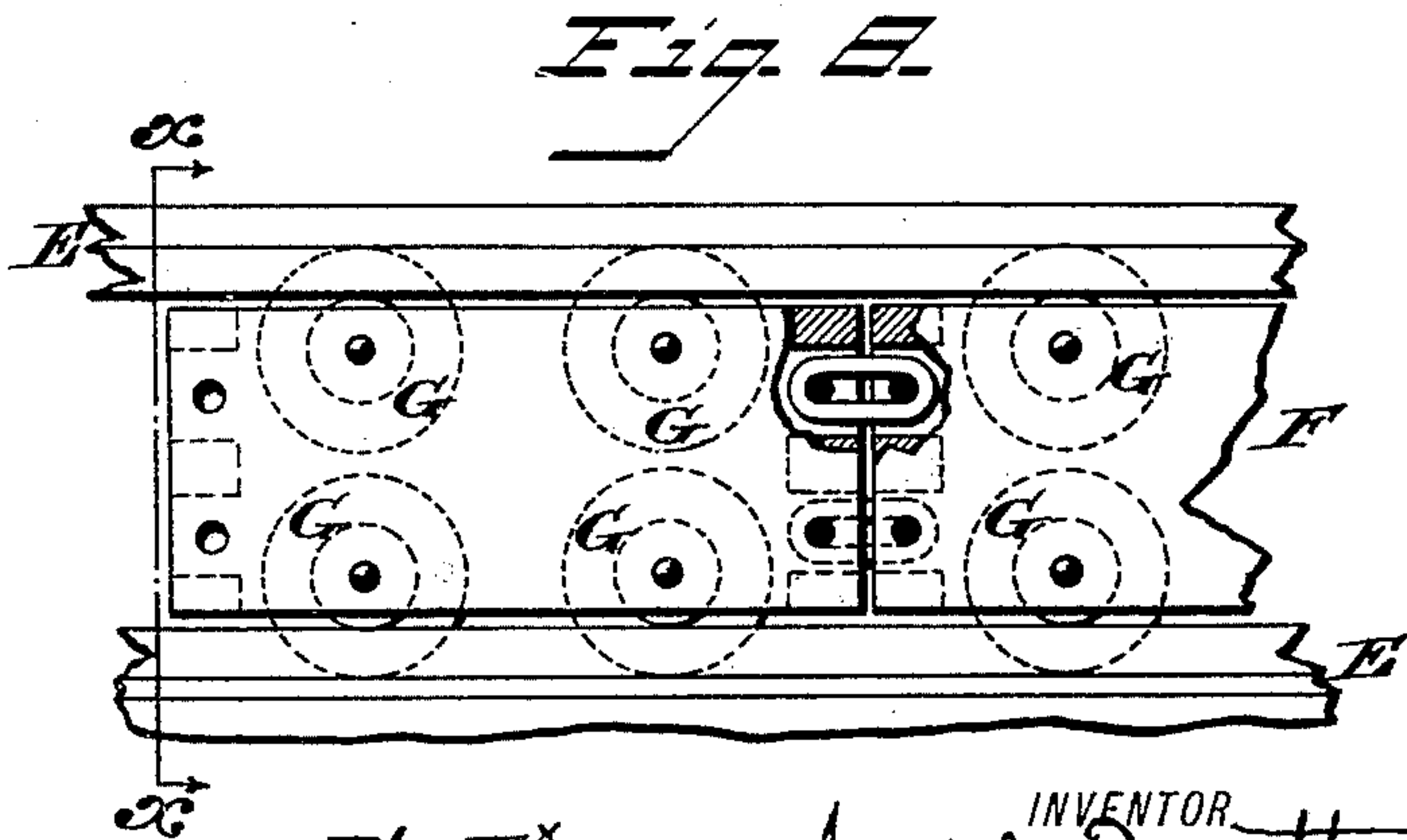
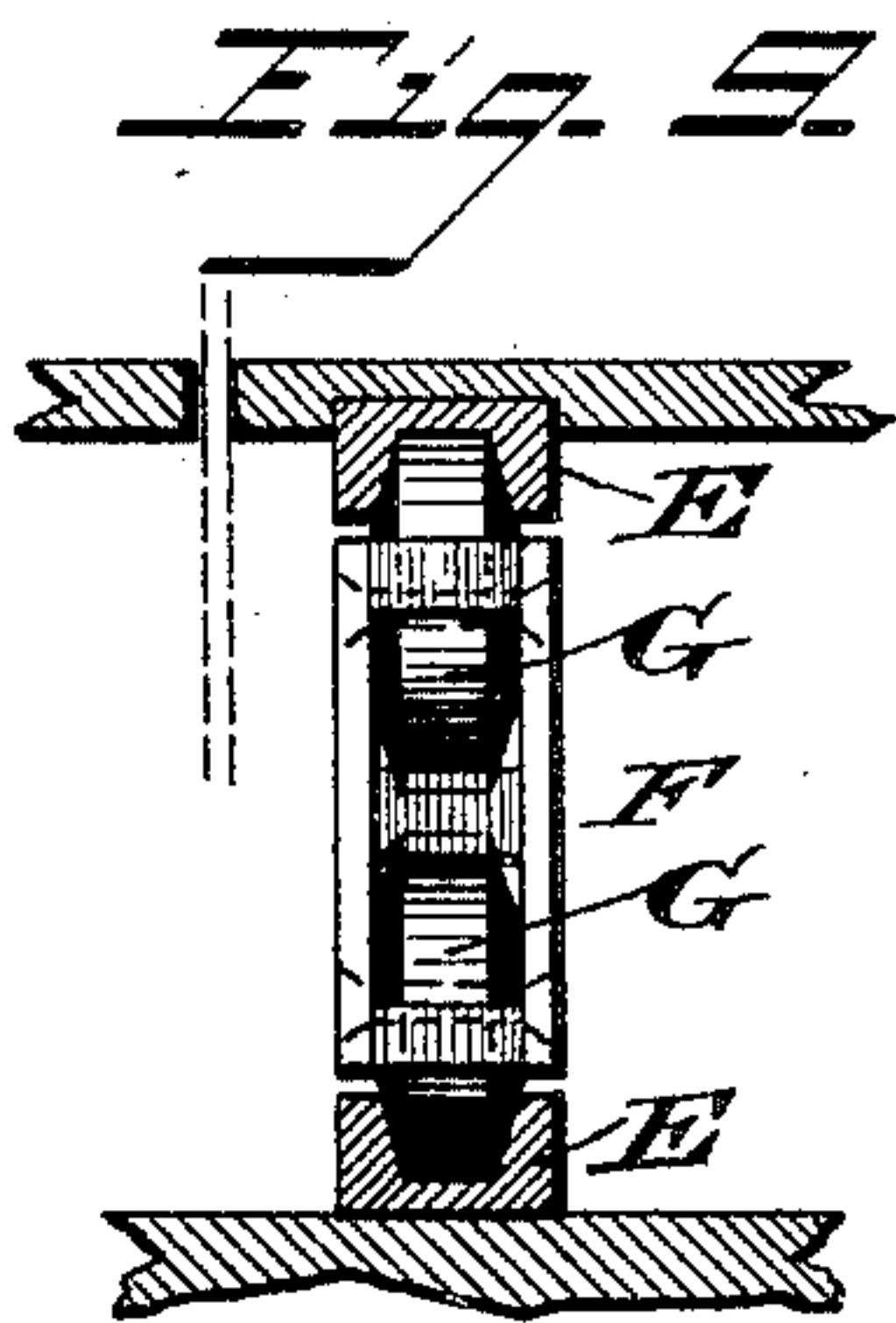
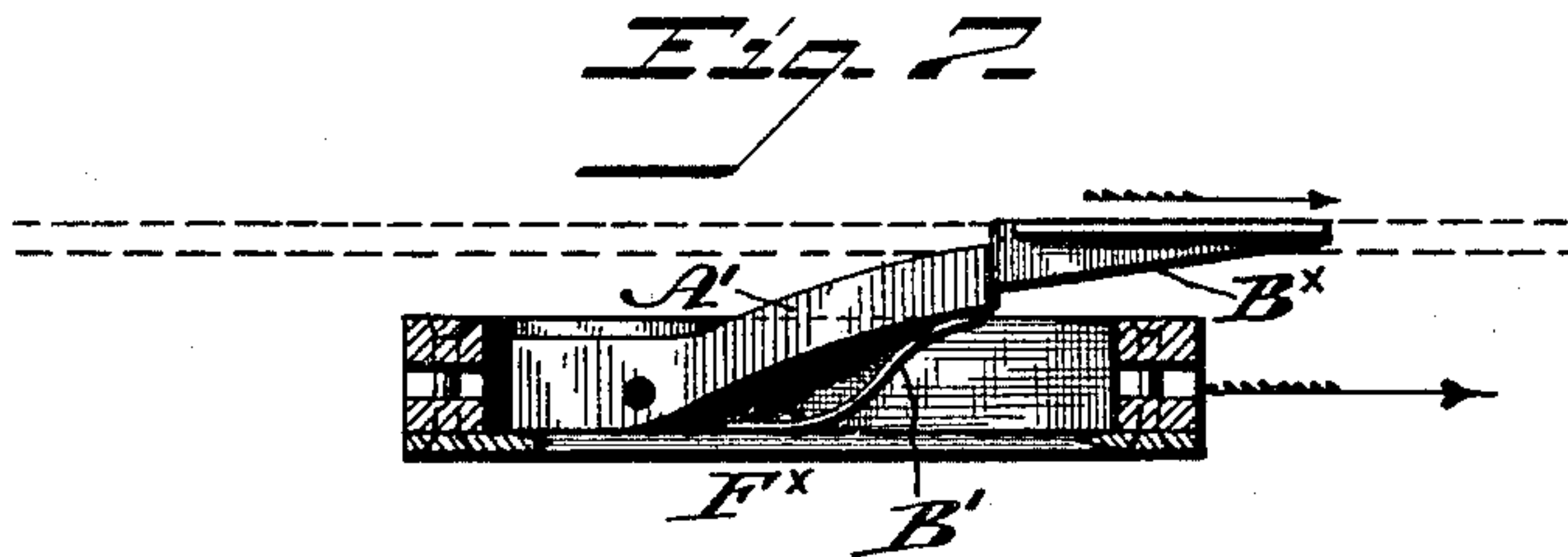
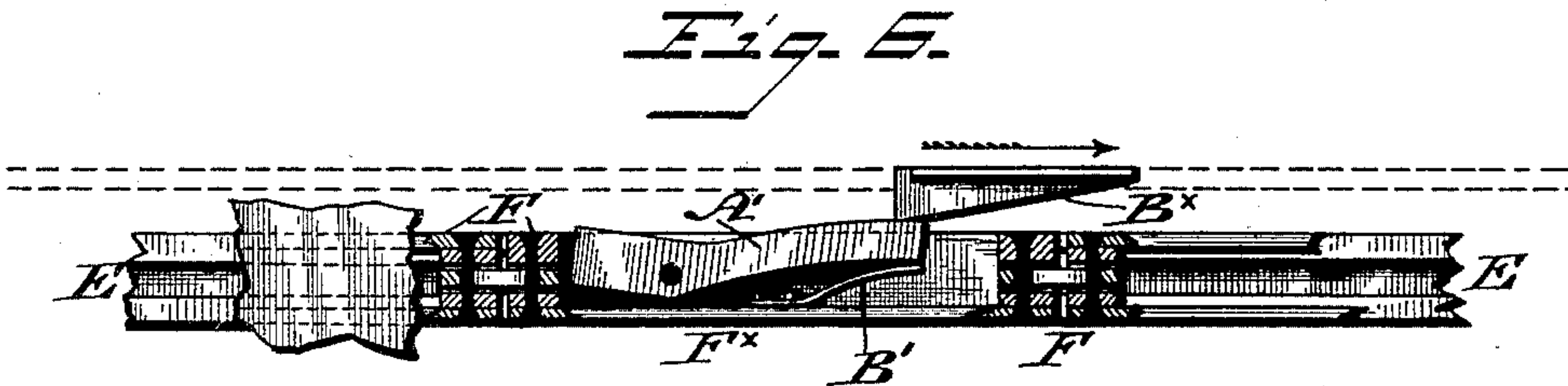
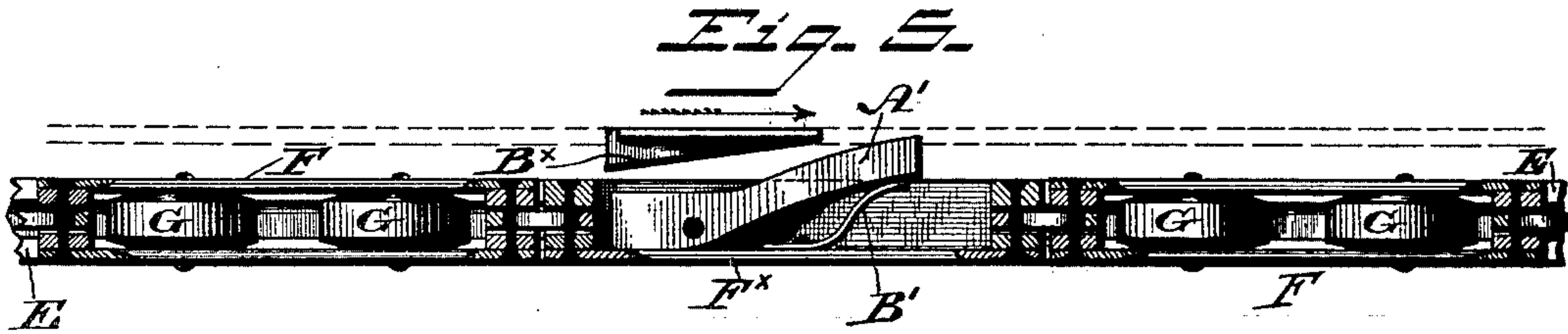
(No Model.)

2 Sheets—Sheet 2.

J. DUNOTT.  
CABLE CROSSING.

No. 460,912.

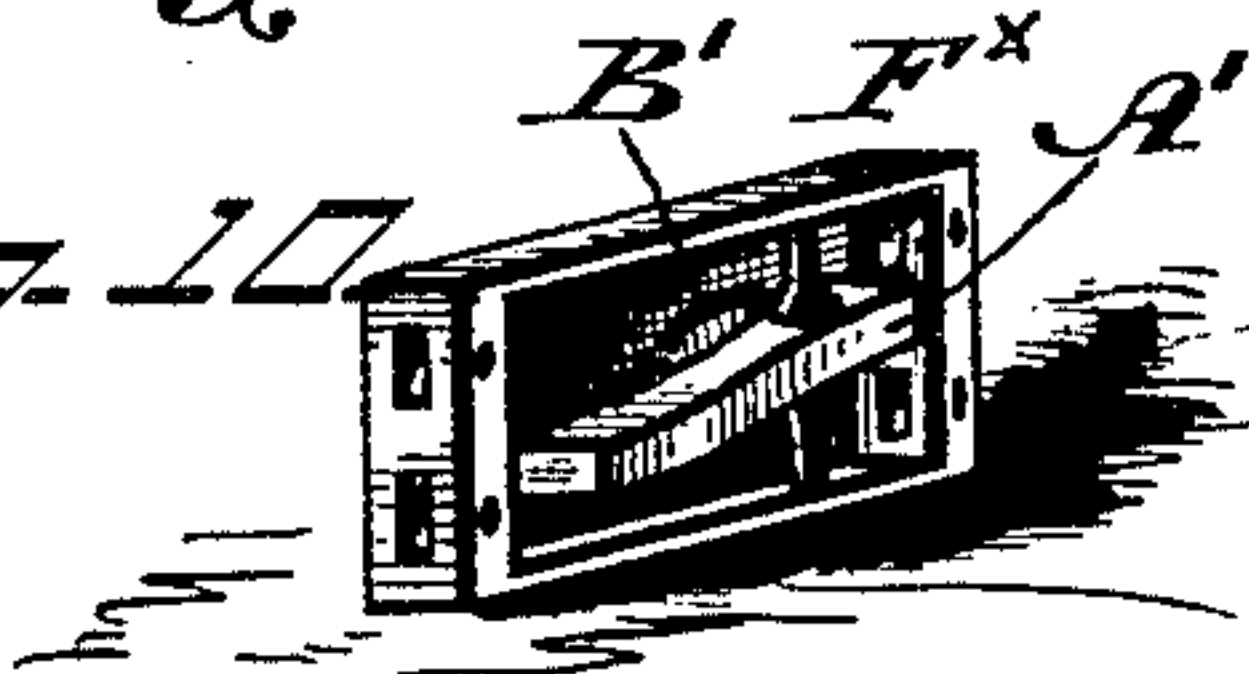
Patented Oct. 6, 1891.



WITNESSES:

L. Downville,  
P. F. Hagler.

Fig. 10.



INVENTOR  
Joseph Dunott  
BY  
H. J. J. J. J.  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

JOSEPH DUNOTT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO FRANK J. RICHARDS, OF SAME PLACE.

## CABLE-CROSSING.

SPECIFICATION forming part of Letters Patent No. 460,912, dated October 6, 1891.

Application filed May 8, 1891. Serial No. 392,004. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH DUNOTT, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Cable-Crossings, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in cable-crossings, and has for its object mechanism whereby a cable car can be carried around a curved portion of a track when released from the main cable or carried across the crossing of two cables; and for these purposes it consists, first, of a series of jointed or connected blocks adapted to move in a curve and provided with means for contacting with the grip-arm.

It further consists of the combination of parts, substantially as hereinafter described.

Figure 1 represents a plan view of a conduit-track with cross and diverging branches, the roadway and top of said conduit being removed to show the arrangement thereof, and a switch and carriage, with operative mechanism therefor embodying my invention. Figs. 2 and 3 represent, respectively, views of the switch in different positions. Fig. 4 represents an end view of the switch, with sectional view of the conduit. Fig. 5 represents a horizontal section, on an enlarged scale, of a portion of the carriage. Fig. 6 represents a horizontal section of the carriage, the spring-arm being depressed. Fig. 7 represents a top view of a carriage-block, the spring-arm being shown as engaging the grip-arm. Fig. 8 represents a side view, on an enlarged scale, of a portion of the device. Fig. 9 represents a section on line *xx*, Fig. 8. Fig. 10 represents a perspective view, on a reduced scale, of the block containing the spring-arm which contacts with the grip-arm.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a conduit having the diverging branches B and C, with curved connecting portions, and the cross-conduit D, connected therewith.

Movable on the tracks or guides E, which are secured in said conduits, is a carriage F,

formed of a number of short blocks or trucks linked together at their ends, so as to be adapted to easily move by means of the roller G along the curved portions of the said tracks. Connected with pins or studs H on one side of a block of the said carriage F are the ends of a cord or chain J, which latter passes around the rollers K, L, M, and N, and a drum N<sup>x</sup>, being wound around the latter a number of times to prevent its slipping therefrom. The direction of the rotation of the drum N<sup>x</sup> determines the direction of movement of the cord J, and consequently of the carriage F. Any suitable motor or means may be employed for rotating the drum N<sup>x</sup>.

To guide the carriage F in its movements, so that it will travel on the proper track, a switch P is provided, said switch having three tracks thereon Q Q' Q<sup>2</sup>, corresponding to the tracks E of the main conduit and branches, respectively. To move the switch laterally on its supports P', and thereby adjust the same, it is connected by two bars R with the rotary toothed wheels S, which mesh with racks T on a sliding bar U. The bar U is operated by means of a gear-wheel V, which meshes with a rack W on said bar U and a rack X on a sliding bar Y.

One of the blocks F<sup>x</sup> of the carriage is provided with a pivoted arm A', one end of which is normally held or projected outward from the side of the block by means of a spring B', so that the inclined face B<sup>x</sup> of the lower end of the grip may ride on the same, pressing it within the block, and thus passing over it, whereby the said arm may engage and bear against the grip-arm when the carriage is moved in the direction of the same.

The carriage is of such length and the parts are so arranged that when the said carriage is returned to the track in the main conduit the block containing the spring-controlled arm has passed over and is a short distance from the switch, which is then adjusted for the proper track. The grip-arm, after riding over the spring-arm A', is released from the main cable, and motion is imparted to the drum N<sup>x</sup>, so as to move the carriage, bringing the end of the arm A' against the grip-arm, so as to force the latter, with the attached



car, around the curve, after which the motion of the drum is reversed, so that the carriage is returned to the track E in the main conduit A, where it is in readiness for another  
5 car.

In the cross-conduit D a carriage F' is employed, similar in character to the carriage F in the conduit A, and the carriages are of such length that when not in operation they  
10 are out of the way of each other, so that there need not be any depression of either track. The carriage F' is operated by means similar to those operating the carriage F.

In the vicinity of the drum N<sup>x</sup> is an alarm  
15 C' in an electric circuit D', and which is operated in any ordinary manner, so as to notify the operator at the drum of the time for rotating the same.

It will be seen that by constructing the carriage of short blocks or trucks linked together  
20 the same can easily be made of a proper length to suit any curve or crossing.

Having thus described my invention, what I claim as new, and desire to secure by Letters  
25 Patent, is—

1. A conduit with a diverging branch, tracks in said conduit and branch, a carriage consisting of linked blocks guided on said  
30 tracks, cords connected with said carriage, and mechanism for operating said cords, said

parts being combined substantially as described.

2. A conduit having a diverging branch, tracks in said conduit and branch, a switch with tracks connecting sections of said tracks,  
35 and a linked carriage movable on said tracks and having a spring-arm adapted to contact with a grip-arm, said parts being combined substantially as described.

3. A main track having a diverging branch, a switch with tracks thereon adapted to connect sections of said main track and diverging branch, mechanism for laterally moving  
40 said switch, linked blocks movable in said tracks, a spring-arm projecting from one of said blocks and adapted to be engaged by a grip-arm, and mechanism for operating said blocks, said parts being combined substantially as described.

4. In a cable-crossing, a carriage consisting  
50 of linked blocks, one of which has a pivoted spring-arm, a track, and a grip-arm with an inclined face on the side of its lower end, said parts being combined substantially as described.

JOSEPH DUNOTT.

Witnesses:

JOHN A. WIEDERSHEIM,  
A. P. JENNINGS.