

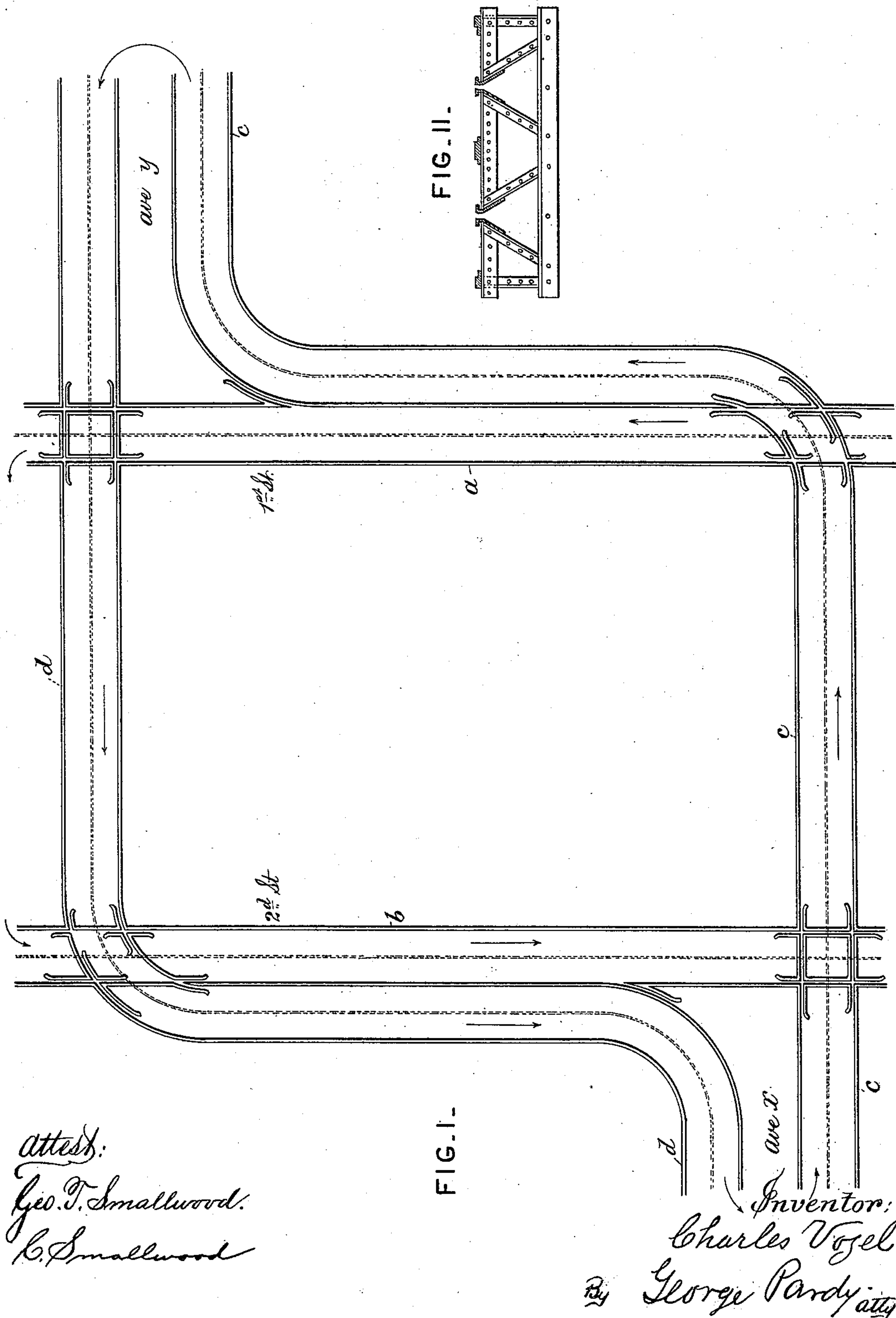
(No Model.)

C. VOGEL.

THREE RAIL TRACK FOR CABLE RAILWAYS.

No. 450,116.

Patented Apr. 7, 1891.



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UNITED STATES PATENT OFFICE.

CHARLES VOGEL, OF SAN FRANCISCO, CALIFORNIA.

THREE-RAIL TRACK FOR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 450,116, dated April 7, 1891.

Application filed August 24, 1887. Renewed April 7, 1890. Again renewed February 18, 1891. Serial No. 381,812. (No model.)
Patented in England September 29, 1887, No. 13,194.

To all whom it may concern:

Be it known that I, CHARLES VOGEL, a resident of the city and county of San Francisco, State of California, have invented an
5 Improvement in Cable and Electric Street-Railways, (for which Letters Patent of Great Britain, No 13,194, dated September 29, 1887, were granted me,) of which the following is a specification.

10 The invention relates to the construction of the track and subway at that portion of the road where two otherwise separate lines meet to travel for a distance over the same route in the same direction; and it consists
15 in providing two tracks formed of two outside rails and one center rail common to both lines of cars which may be operating upon the road, the object being to simplify the construction and operation and economize in
20 the expense of the structure.

In the accompanying drawings, forming part of this specification, Figure I shows a ground plan of the invention, the arrow-points designating the direction of motion of
25 the cars. Fig. II is a cross-section taken through the subway and track.

In both figures the same letters of reference are used to indicate the same parts.

In street-railroads it frequently occurs that
30 two distinct lines will at a portion of their route pass for a distance upon the same street, and as both may in many cases, as with animal haulage and independent motors, use the same track it has been customary to provide
35 but one track at this point for the mutual accommodation of both lines; but with the cable system and some forms of the electric system this is impracticable, because the conductor, cable or electric, being separate for
40 each line cannot occupy the same position in the center of the track, where it is usually placed. Hence it has been the custom to build separate conduits and tracks throughout.

45 The present invention, while it preserves the complete independency of each conductor, be it cable or electric, combines the separate

tracks without the slightest inconvenience in operating.

In Fig. I, *a* is the uptrack going north on, let us say, First street. *b* is the downtrack
50 south on Second street, both operated by the same cable or wire. *c* is the track running east on avenues *x* and *y*, and *d* the track running west on the same avenues, operated by
55 another separate and distinct cable or wire. This latter track, with its conductor, also traverses avenue *y*. The extremities of both tracks are not shown; but the circling arrow-points indicate the curving at the termini of
60 the forward into the return track.

In the drawings it will be observed that the avenue track is coincident with the street track for a short distance, and it is at this point that both tracks are formed by one central and two outside rails, which constitutes
65 the invention.

The details of construction respecting the curves, crossings, and turn-outs are not essentially different from common practice and need not be elaborately shown or described;
70 also, with reference to the provisions made for intersecting cables or electric conductors each case will have to be considered by itself and will be controlled by the condition of the grades. Generally the rising grade will have
75 the upper cable or wire, while the level or falling grade will have its conductor dipped under the crossing one in the usual fashion.

What I claim as my invention, and desire to secure by Letters Patent, is as follows: 80

In street-railways, the combination, with the subways for underground cables or electric conductors, of the tracks herein described, consisting, essentially, of two outer rails and
85 a single middle rail common to both contiguous tracks, substantially as and for the purpose herein described.

CHARLES VOGEL.

Witnesses:

GEO. PARDY,
H. E. SUMNER.