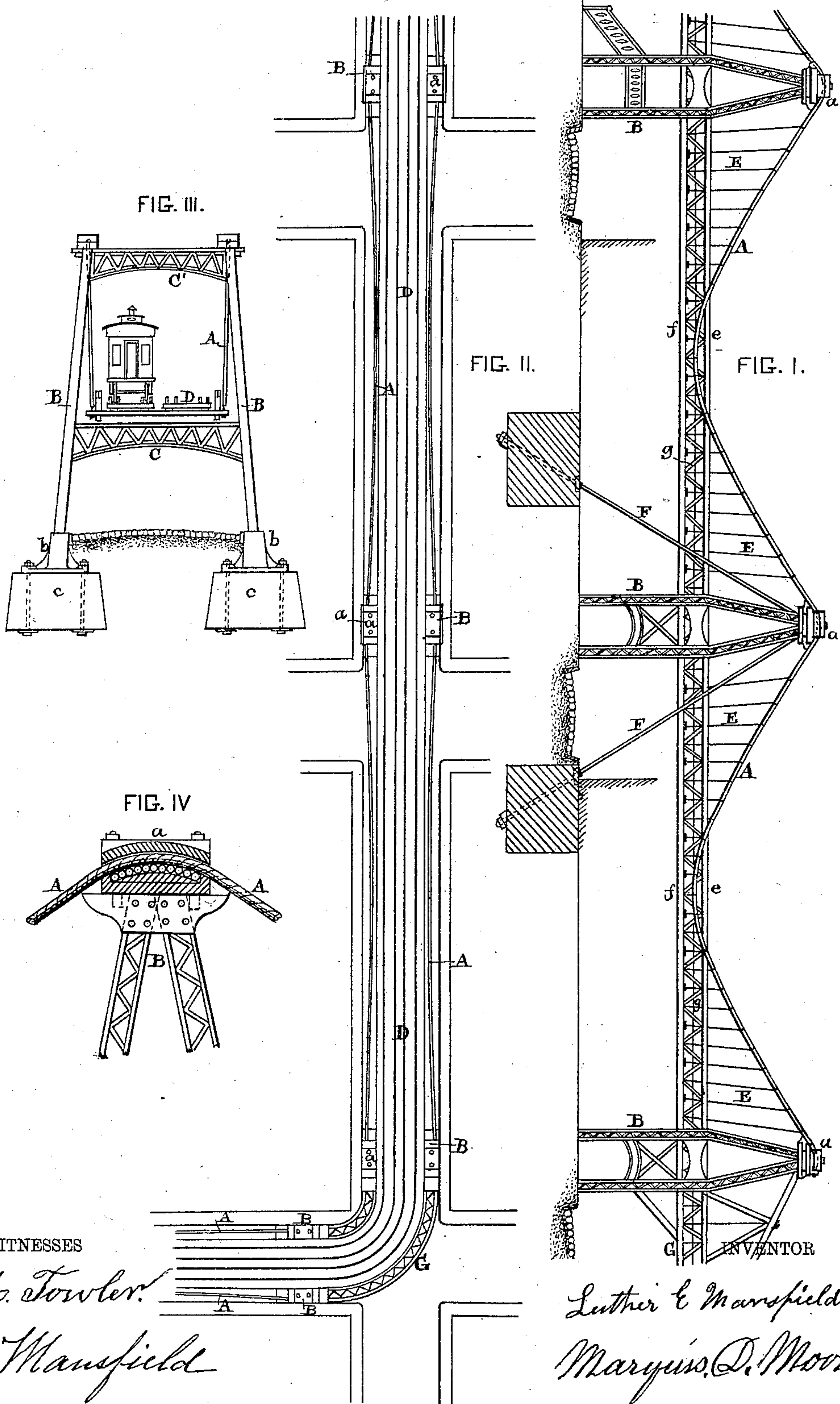


(Model.)

L. E. MANSFIELD & M. D. MOORE.
ELEVATED RAILWAY.

No. 257,034.

Patented Apr. 25, 1882.



WITNESSES

Mr. Fowler.
F. Mansfield

Luther E. Mansfield.
Maryiss D. Moore

UNITED STATES PATENT OFFICE.

LUTHER E. MANSFIELD AND MARQUIS D. MOORE, OF BROOKLYN, NEW YORK, ASSIGNORS OF THREE-FOURTHS TO SAMUEL BROMBERG AND SAMUEL H. MILDENBERG, BOTH OF SAME PLACE.

ELEVATED RAILWAY.

SPECIFICATION forming part of Letters Patent No. 257,034, dated April 25, 1882.

Application filed January 9, 1880. Renewed March 8, 1882. (Model.)

To all whom it may concern:

Be it known that we, LUTHER E. MANSFIELD and MARQUIS D. MOORE, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Elevated Railways; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of our invention is to improve the construction of elevated railways; and it consists in the construction and arrangement of parts, as will be more fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of a part of our elevated railway. Fig. 2 is a plan view of the same. Fig. 3 is a cross-section thereof.

In the drawings, A represents a continuous main chord or cable, made of iron or steel wire rope, by which the roadway is suspended. This chord is supported on suitably-constructed chairs *a*, which are provided with friction-rollers, so as to allow the chord to move easily over them.

The cable may be made of links, if desired, instead of wire rope, or of chains; but we prefer wire rope.

The chairs are supported on towers or columns B, made of any suitable material and construction, and are braced transversely by trusses C C' between the towers. The towers are held in position and held in place by iron socketed shoes *b*, which are firmly secured to the foundation *c* by bolts *d*. The roadway D is suspended from the main chord A by a suitable number of guys, E, and consists preferably of an upper and lower stringer or chord, *e* and *f*, held apart in proper position by diagonal braces *g*, and said roadway may be made of wood, iron, or other suitable material. Upon this roadway the stringers, cross-

ties, and rails of the railroad are suitably secured.

In the towers, at certain intervals and wherever desired, may be arranged stairways, by which to ascend and descend to and from the road. The towers may be further held in position by longitudinal end guys, F, which are secured in suitable foundations and prevent swaying.

At the corners or sharp angles the roadway G is made solid, as it would be impracticable to suspend the road by cables around said corners or curves.

An important feature in the construction is that the cables are arranged so as to taper in width or approach each other from the ends toward the center, so as to give the cables a duplex curve, by which the swaying of the railway road-bed is also prevented. Another feature of this arrangement is that the vibrations are carried along the cables to the point of their passing over the towers, where they are dispelled, thus preventing the noise consequent upon trains running over columns at short intervals.

The great advantages of making the main cables of a continuous wire rope are that the towers can be placed much farther apart than with elevated roads as now constructed, which are supported on each side of the street by columns at short intervals, and connected by heavy trussed girders, which also obstruct the sunlight and heat. The expansion and contraction are also much better compensated for than in any elevated railway, and the danger of bolts becoming loose or the long trussed girders shrinking is entirely obviated. The whole general appearance is also much neater and lighter, and the construction, with less material, much stronger than the ordinary roads. The parts can be also much easier repaired in case any should wear out or get out of order, and the expense is a great deal less.

We are aware that suspension-bridges have been made with a continuous cable of wire rope for one span, and therefore do not broadly claim the use of a continuous chord; but, Having described our invention, what we

claim, and desire to secure by Letters Patent,
is—

The elevated railway herein described, consisting of the continuous cable A, extending
5 the entire distance of each straight part, passing over chairs *a*, with friction-rollers, and suspending the road-bed D by guys E, and supported on towers B, provided with trusses C
C', guys F, and stairways, and the solid road-
10 way G at the corners, all constructed and arranged as shown and specified.

In testimony that we claim the foregoing we have hereunto set our hands this 28th day of November, 1879.

LUTHER E. MANSFIELD.
MARQUIS D. MOORE.

Witnesses to signature of M. D. Moore:

WALTER E. HANTSCH,
SAML. BROMBERG.

Witnesses to signature of L. E. Mansfield:

GEO. H. SCIDMORE,
J. FOUCKE STONE.