

(No Model.)

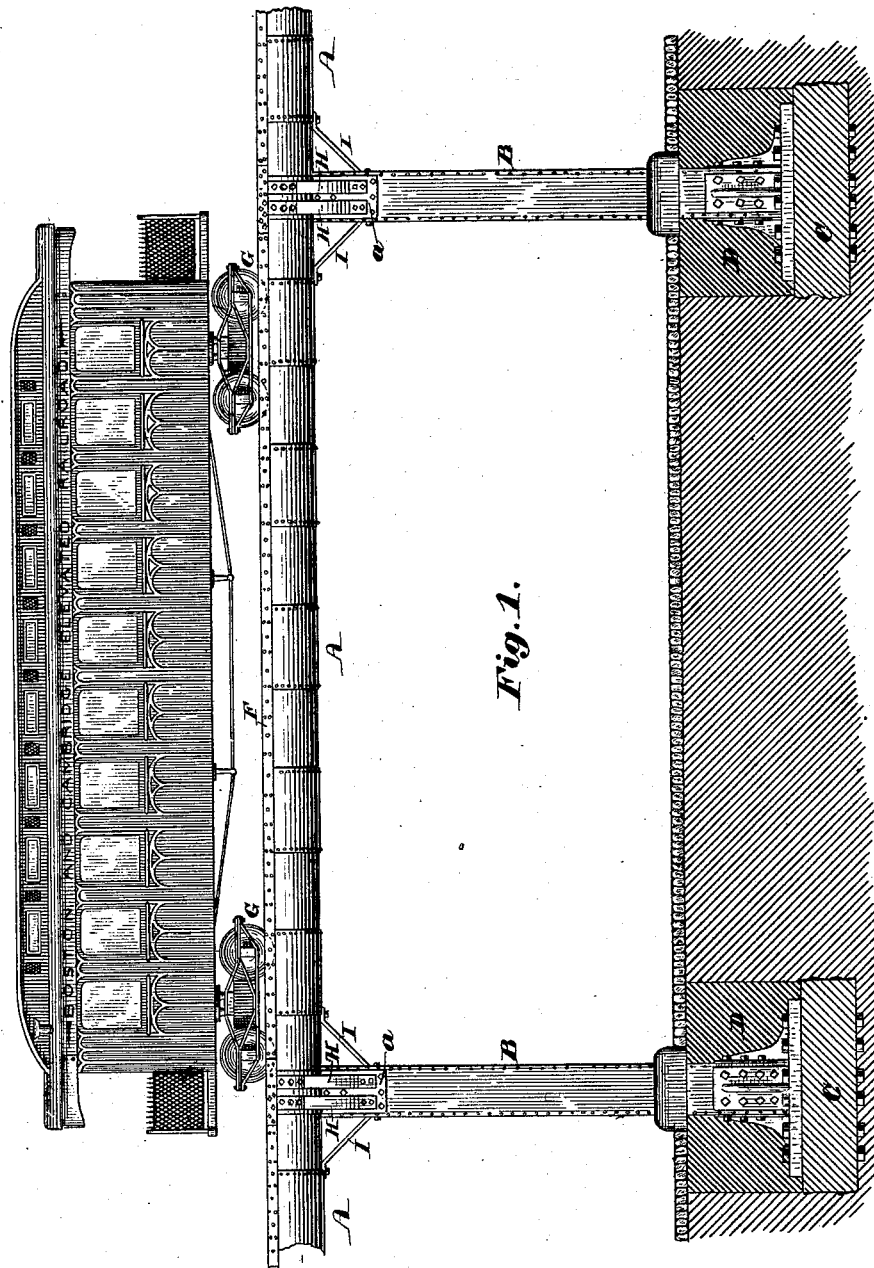
2 Sheets—Sheet 1.

A. S. DRISKO.

ROAD BED FOR ELEVATED RAILWAYS.

No. 301,871.

Patented July 15, 1884.



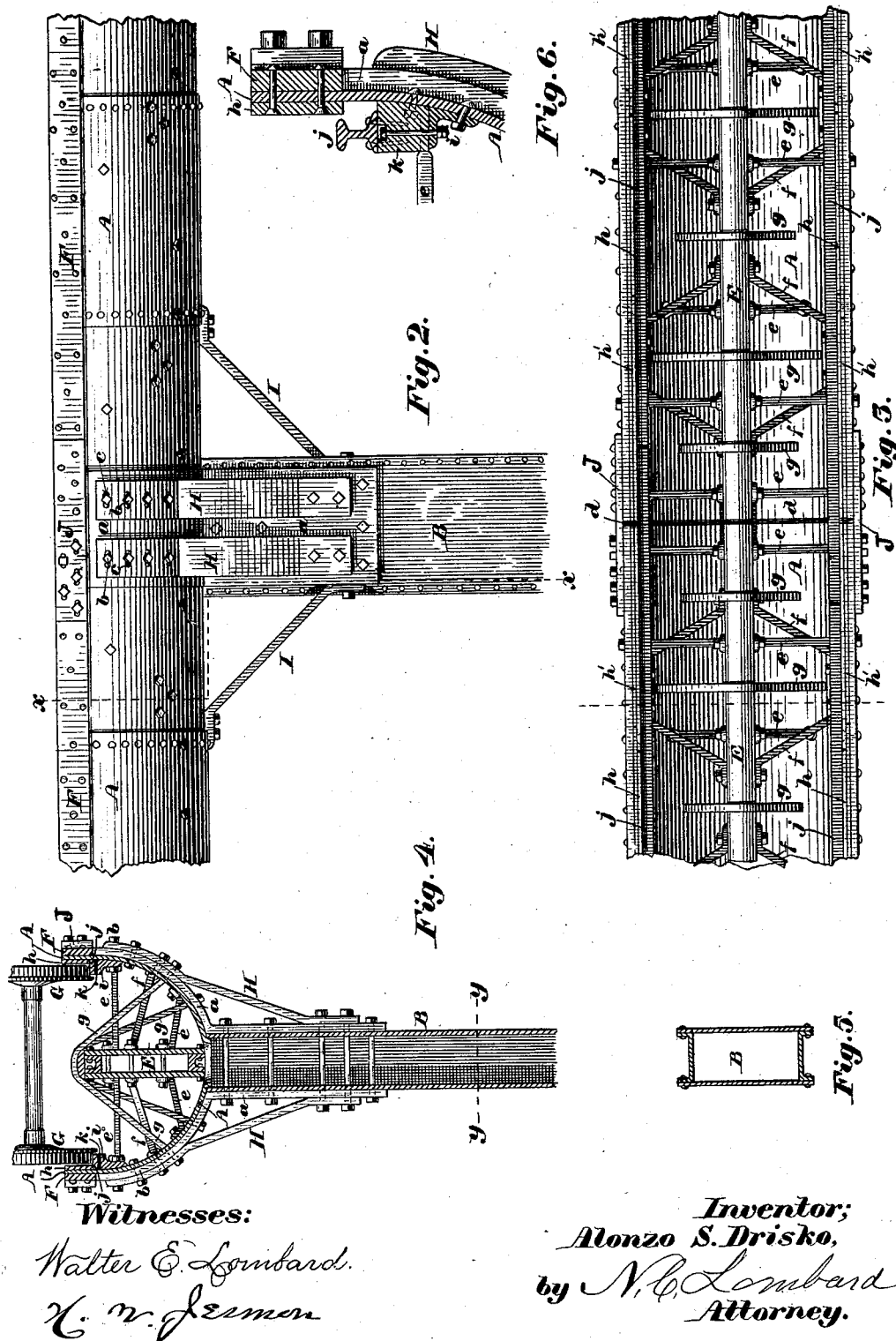
Witnesses:
Walter E. Lombard.
H. W. Seimon

Inventor;
Alonzo S. Drisko,
by *N. E. Lombard*
Attorney.

A. S. DRISKO.
ROAD BED FOR ELEVATED RAILWAYS.

No. 301,871.

Patented July 15, 1884.



UNITED STATES PATENT OFFICE.

ALONZO S. DRISKO, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO RENTON WHIDDEN, OF SAME PLACE.

ROAD-BED FOR ELEVATED RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 301,871, dated July 15, 1884.

Application filed February 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALONZO S. DRISKO, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Road-Beds for Elevated Railways, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to the construction of the road-beds for elevated railways, and has for its object increased strength and durability of the structure, with the least possible obstruction to light and air in the buildings in front of which it is located, and at the same time to prevent coals, oil, and other objects dropping from the track upon persons or teams passing beneath it; and it consists in constructing said road-bed or support for the tracks from plate-iron in the form of a semi-cylindrical or trough-like girder supported upon a simple row of posts with its open side upward, as will be further described.

It further consists in a road-bed or track-support composed of a semi-cylinder or trough-like girder of plate-iron arranged with its concave side upward upon a single row of posts, and a central girder arranged longitudinally of and within said semi-cylinder, and of a depth about equal to the semi-diameter of said cylinder, and suitable radial tie-rods and braces connecting said central girder with the semi-cylinder, as will be more fully described.

It further consists in certain details of construction, which will be readily understood by reference to the description of the drawings, and to the claims to be hereinafter given.

Figure 1 of the drawings is a side elevation of a section of my improved elevated railway with a car standing thereon. Fig. 2 is a similar elevation of a shorter section drawn to an enlarged scale, and showing only the upper portion of one of the supporting-posts. Fig. 3 is a plan of a section of the road-bed. Fig. 4 is a transverse vertical section on line *x x* on Fig. 2. Fig. 5 is a section of one of the supporting-posts, taken on line *y y* on Fig. 4; and Fig. 6 is a transverse section through the rail and its supporting angle-iron, drawn to a still larger scale, and illustrating a modification of the rail and its support.

A is the semi-cylindrical girder, made of plate-iron, riveted together in substantially the same manner that steam-boilers are made, and mounted upon the supporting-posts B B, arranged in a single row, and firmly anchored to the large stone-levelers C, sunk several feet below the surface of the ground, and surrounded between said stone and the surface of the ground by a mass of concrete, D, as shown in Fig. 1. The semi-cylinder A is made in sections of suitable lengths to span the distance between the center of one post to the center of another, and the different sections are secured to the upper ends of the posts B B by means of the plates *a a*, the lower ends of which are firmly riveted or bolted to the sides of the posts B, and the upper portions of which are bent outward and upward to fit around the curved sides of the semi-cylinder, and are secured to each of two sections of the semi-cylinder by means of bolts *b b*, which pass through slots *c c*, to allow for a slight movement of said sections upon the posts to compensate for expansion and contraction of the metal due to variations in the temperature, a space, *d*, between the ends of the sections of the semi-cylinder A being provided for the same purpose, as shown in Fig. 3.

E is a central longitudinal girder, rectangular in cross-section, and made preferably hollow, as shown in Fig. 4; also, made in sections and arranged in the center of the semi-cylinder, with suitable spaces between their ends to allow for expansion. The curved sides of the semi-cylinder A are connected to said central girder by means of the horizontal or nearly horizontal stays *e e*, arranged at right angles to said girder, the oblique braces *f f*, and the strap-stays *g g*, which pass over the upper edge of the girder E, and are connected at their ends to opposite sides of the semi-cylinder, as shown in Fig. 4. At each post an opening is formed in the semi-cylinder directly over said post for the escape of any water that may be deposited therein, which will fall to the bottom of the post and be conveyed therefrom to the sewer or drain by suitable pipes. (Not shown.) The upper edges of the semi-cylinder A are strengthened by the addition thereto of the plate or band F, firmly

riveted to the exterior of each section, in addition to the inner filling-plates, *h*, and the outer filling-plates, *h'*, the two latter being used to straighten the outer or inner lines or surfaces of the upper portions of the semi-cylinder, which otherwise would be irregular or uneven, due to the fact that the sheets of which the sections of the semi-cylinder are composed are lap-jointed, as shown in the drawings. This construction adds materially to the strength of the semi-cylinder, the thickened upper edge forming a strong upper chord to the truss.

Upon the inner walls of the semi-cylinder *A* are firmly riveted two angle-irons, *i i*, one upon either side, a short distance below the upper edge of said semi-cylinder, as shown in Fig. 4. Upon these angle-irons are secured the rails *j j*, with a non-resonant substance, *k k*, interposed between said rail *j* and the angle-iron *i*, which may be a sheet of rubber or felt, *k*, arranged as shown in Fig. 4, or it may be of wood, as shown in Fig. 6.

G G represent a pair of car-wheels in the positions they occupy when running upon the track.

It will be seen by reference to Fig. 4 that the wheels of the car, when running upon the rails *j j*, are between the upper portions of the semi-cylinder *A*, which serve as guards to prevent the wheels leaving the track, the inner surfaces of said guards presenting no obstructions for the wheels to come in contact with if the flange should run upon the top of the rail.

H H are two braces upon each side of the post *B*, and extending therefrom to the sides of the semi-cylinder *A*, as shown in Fig. 4, and adapted to serve as an additional stay in securing the semi-cylinder to the posts, and brace it laterally, and *I I* are braces extending from the posts to the under side of the semi-cylinder, as shown in Figs. 1 and 2, and serve to brace the structure in the direction of the length of the track.

The advantages of my invention are great strength and durability, a neat and slightly appearance, less obstruction to light and air in the streets where located, and the great protection to persons and property, due to rendering it impossible for oil, grease, or coals to drop from the track upon persons or teams in the street below.

J J are tie-plates extending across the joint between two sections of the semi-cylinder at its upper edges, and secured thereto in such a manner as to strengthen the upper chords of the truss formed by the semi-cylinder, and

at the same time permit expansion and contraction of the same.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An elevated road-bed for railways, composed of a semi-cylinder of plate-iron, supported upon a single row of posts, with its convex side downward, substantially as described.

2. An elevated road-bed for railways, composed of a semi-cylinder of plate-iron, supported upon a single row of posts, with its convex side downward, and a central longitudinal girder arranged within the concave side of said semi-cylinder equidistant from and parallel with the two upper edges or sides of said semi-cylinder, substantially as described.

3. The combination of the semi-cylinder *A*, the rectangular girder *E*, the stay-rods *e g*, the braces *f f*, angle-irons *i i*, and rails *j j*, all constructed, arranged, and adapted to operate substantially as and for the purposes described.

4. The combination of the semi-cylinder *A*, mounted upon a single row of hollow posts, *B*, and provided with communication from its interior to the interior of said posts, and the rails *j j*, supported within said semi-cylinder, substantially as described.

5. In an elevated road-bed for railways, the combination of the semi-cylinder *A*, made in sections, a single row of hollow posts, *B B*, and the plates *a a*, firmly secured to said posts by bolts or rivets, and to the ends of two sections of said semi-cylinder by bolts passing through slots to allow for expansion and contraction, substantially as described.

6. The combination of the semi-cylinder *A*, a single row of posts, *B*, the plates *a a*, braces *H* and *I*, the girder *E*, the stays *e* and *g*, the angle-irons *i i*, and the rails *j j*, all arranged and adapted to operate substantially as and for the purposes described.

7. The combination of the semi-cylinder *A*, arranged with its convex side downward, and having its upper edges re-enforced by the plates *F*, *h*, and *h'*, the angle-irons *i i*, rails *j j*, and a single row of posts, *B*, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 8th day of February, A. D. 1884.

ALONZO S. DRISKO.

Witnesses:

JAMES T. MURRAY,
N. C. LOMBARD.