R. STONE.

Elevated-Railway.

No. 162,504. Patented April 27, 1875.

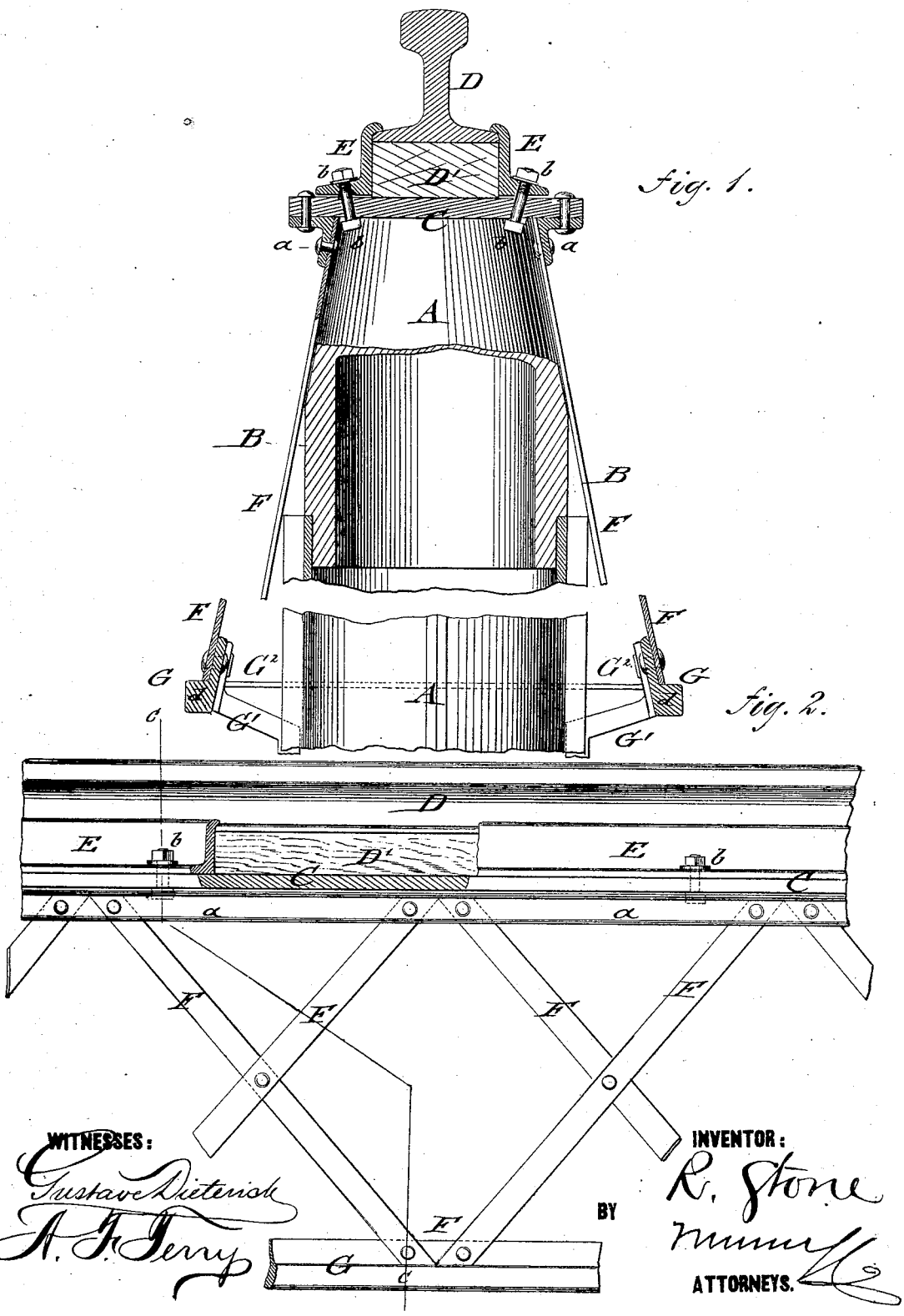

fig. 1.

fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ROY STONE, OF VANDALIA, NEW YORK.

IMPROVEMENT IN ELEVATED RAILWAYS.

Specification forming part of Letters Patent No. **162,504**, dated April 27, 1875; application fi'ed March 20, 1875.

To all whom it may concern:

Be it known that I, ROY STONE, of Vandalia, in the county of Cattaraugus and State of New York, have invented a new and Improved Elevated Railway, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical transverse section of my improved elevated railway, taken on the line *c c*, Fig. 2, showing connection of girder with supporting-column; and Fig. 2 is a side elevation of the connecting-girder.

Similar letters of reference indicate corresponding parts.

My invention is an improvement in the construction of girders for elevated railways of the class in which a single bearing top rail is employed to support a car of the "saddle-bag" form.

The invention consists in a truss-girder of triangular, or, more strictly speaking, of trapezoidal form, to whose top chord the car-bearing rails are attached, as hereinafter described.

In the drawing, which illustrates my invention, A represents a column of suitable strength and size, which is constructed in the most approved manner, and seated by bracing-webs of the base with lateral flanges or brackets securely and rigidly fastened into the ground. The upper part or head of each column is preferably made of slightly tapering or conical shape, and extended through the head-connecting girder that is strung from one column to the other, the top chord C of the same being riveted, or otherwise firmly attached by angle-irons *a*, to the top of the post. The top chord C supports the bearing-rail D, which is formed in the shape of the common rail, it being, however, not seated directly on the top chord, but on a longitudinal intermediate timber-cushion, D′, that is incased by angle-rails E, bolted firmly to the top chord by screw-bolts, nuts, and jaw-nuts *b*. The angle-rails E run along the entire length of the rail-cushion, and bind by their curved top edge or bend on the base of the rail, so as to impart a firm seat for the same without the necessity of fish-plates, spikes, or other rail-fastening devices.

The timber-cushions D′ are closely fitted end to end, and protected by being inclosed on all sides against the influence of the weather, while any worn part of the same may be readily replaced at any time, if required, by removing the rail-binding angle-irons E.

The strain which is exerted on the top rail on applying the brakes of the car is by the timber-cushion transmitted and distributed in longitudinal direction to more distant parts of the top chord.

The girder B is a sort of lattice-truss of triangular cross-section. The diagonal bars F, constituting its inclined sides, are riveted or bolted at the top to angle-bars *a*, and at the bottom to bars G, while other bars, G^2, similarly connect the bars G, and constitute the bottom of the truss.

As previously intimated, the truss is, strictly speaking, trapezoidal in form.

The arms G^1 connect the truss or girder with the posts A, and give its base the required support.

The bottom chords G of the girder are provided at the lower part with rectangular shoulders or projecting seats *d*, that form the guiding-rail for the lower guide-wheels of the car. These shoulders increase not only the strength of the girder by stiffening the bottom chords of the same, but furnish also a face-bearing parallel to the axle of the lower guide-wheels of the car.

The position of the bearing and guiding wheels may be reversed, the girder-rails being of equal value in one case as in the other.

The car may therefore be propelled with considerable speed and perfect freedom from vibration thereon, as the complete unity of girder and columns produces only the vibrations common to all elevated railways placed on columns, but without the separate shaking of the connecting-girder.

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

1. The combination of the bearing-rail with the trapezoidal truss-girder, having its top chord C secured to and connecting its sides B B, as shown and described.

2. The top bearing-rail, seated on a timber-cushion, and secured by base-binding angle-rails to the top chord, substantially as shown and described.

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Witnesses:

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