

(No Model.)

T. COATES.

MODE OF CHECKING VIBRATIONS IN ELEVATED RAILROADS, &c.

No. 261,678.

Patented July 25, 1882.

Fig. 1.

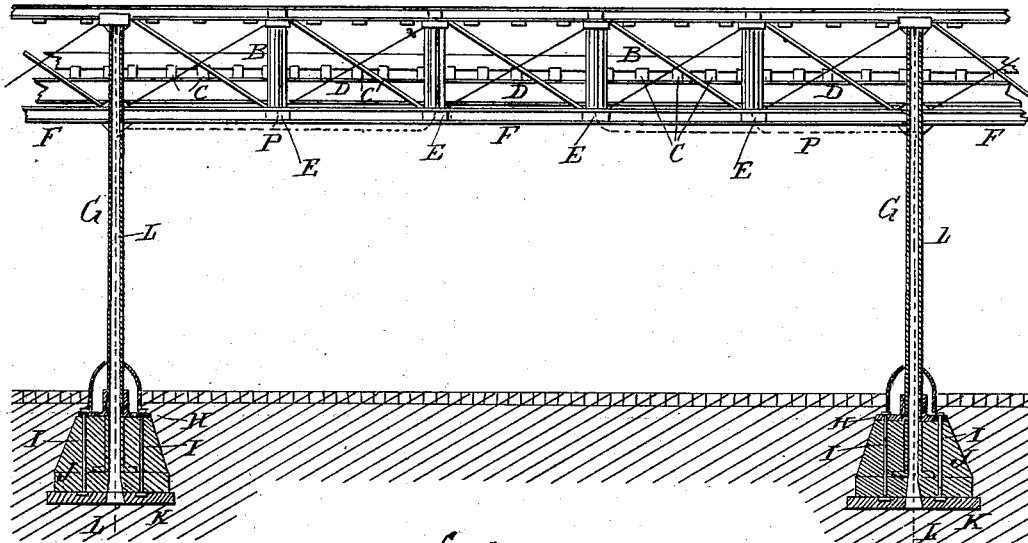
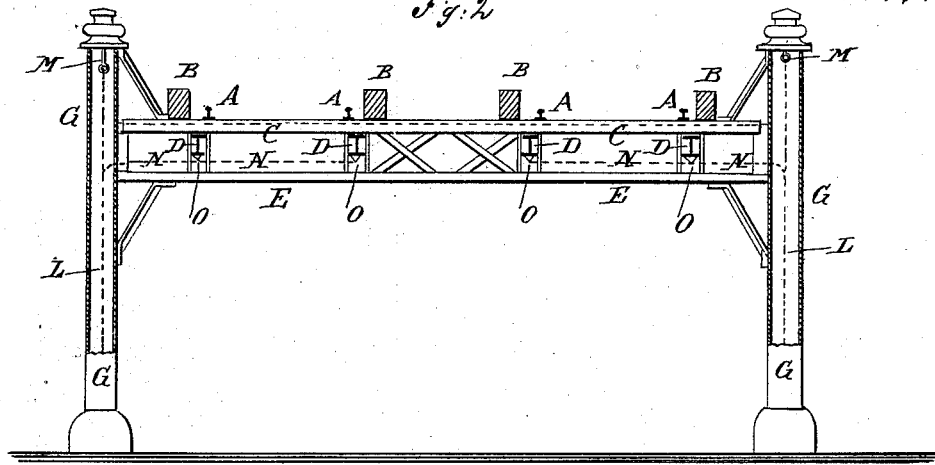


Fig. 2.



WITNESSES:

Chas. Mida.
B. G. Underwood.

INVENTOR:

T. Coates.
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS COATES, OF WATERVILLE, NEW YORK.

MODE OF CHECKING VIBRATIONS IN ELEVATED RAILROADS, &c.

SPECIFICATION forming part of Letters Patent No. 261,678, dated July 25, 1882.

Application filed June 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS COATES, of Waterville, in the county of Oneida and State of New York, have invented a new and Improved Mode of Checking Vibrations in Elevated Railroads and other Structures, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of a portion of an elevated-railroad structure, the columns being shown in section. Fig. 2 is a sectional end elevation of the same.

The object of this invention is to prevent noise caused by the vibrations of elevated-railroads and other structures.

The invention consists in the combination, with the stringers, the transverse girders, and the columns of an elevated-railroad, of iron bars extended into the ground, whereby the vibrations caused by a passing train are checked and conducted to the ground; and also in the mode of checking vibrations in elevated railroads and other structures by connecting iron bars with the frame of the structure, and then extending the bars into the ground, as will be hereinafter fully described.

A represents the track-rails; B, the guard-beams; C, the cross-ties; and D, the stringers, upon which the ties C rest. E are the transverse girders, F are the longitudinal girders, and G are the columns, of an elevated-railroad structure. The columns G are made hollow, and their base-plates H are secured by bolts I to stones J, resting upon concrete foundations K in the bottoms of excavations in the ground.

The base stones J and the concrete foundations K are perforated vertically in line with the interior of the columns G. In the interior of the columns G are placed bars L, of iron, an inch square, more or less. The lower ends of the bars L pass down through the stone base J and the concrete foundation K, and extend into the ground below the said foundation two and a half feet, more or less.

In the case of railroad structures already built the lower ends of the rods L extend into the ground at the side of the said base stone and concrete foundation.

The upper ends of the bars L are connected with the caps of the columns G by eye-screws M, staples, or other suitable means.

With the bars L are connected, by clamps or other suitable means, the ends of bars N, which are connected, by eye-screws O, clamps, or other suitable means, with the ends of the stringers D, as shown in Fig. 2. With the bars L are also connected the ends of bars P, which are connected, by eye-screws, clamps, or other suitable means, with the ends of the transverse girders E, as shown in Fig. 1. By this construction the vibrations caused by the passage of a train of cars will be conducted by the bars L N P to the ground and smothered, so that the annoying noise caused by the said vibrations will be prevented.

I have described my improvement as applied to elevated-railroad structures, but do not limit myself to that application, as it can be used with equal advantage in churches and in other public buildings upon which bells are suspended, to prevent the occupants of the said buildings from being annoyed by the vibrations when the bells are rung. In this case a rod will be attached to the frame upon each side of the bell and carried over in the roof to line of wall and continued down on face of wall, or in a channel cut in the wall to a depth a little greater than the thickness of the rod, until it reaches the lower floor in basement, and then enters the ground.

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

1. In an elevated railroad, the combination, with the stringers D, the transverse girders E, and the columns G, of the iron bars N P L, substantially as herein shown and described, whereby the vibrations caused by a passing train are checked and conducted to the ground, as set forth.

2. The mode of checking vibrations in elevated railroads and other structures, substantially as herein shown and described, which consists in connecting iron bars with the frame of the structure, and then extending the said bars into the ground, as set forth.

THOMAS COATES.

Witnesses:

Z. M. KNOWLES,
A. R. BENNETT.