

(No Model.)

E. WEGMANN, Jr., & C. J. BATES.
RAILWAY.

No. 446,106.

Patented Feb. 10, 1891.

Fig. 2.

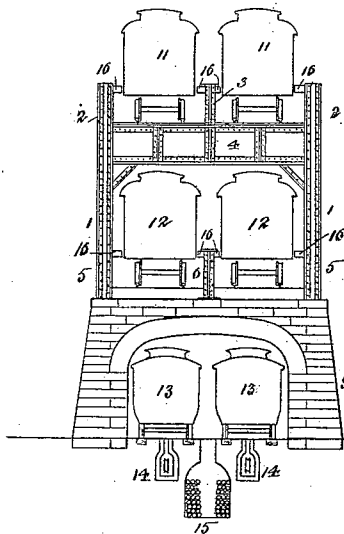


Fig. 1.

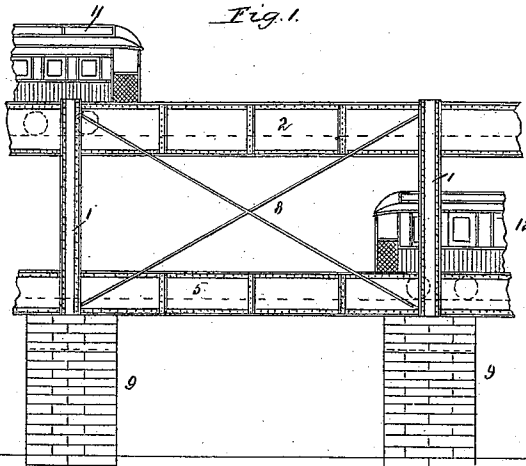


Fig. 4.

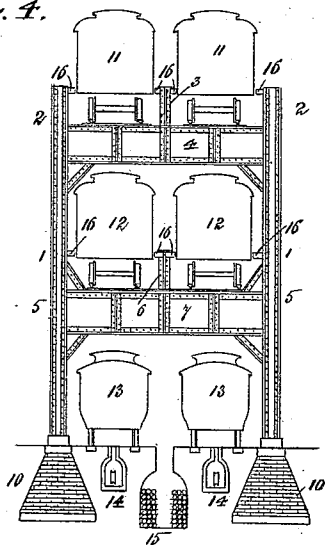
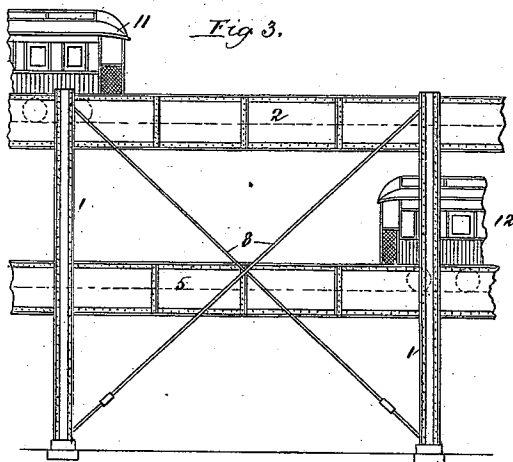


Fig. 3.



Witnesses
H. R. R. R.
F. R. R. R.

Inventor
Edward Wegmann Jr.
Char. J. Bates
By Wm S. Baker
Atty.

UNITED STATES PATENT OFFICE.

EDWARD WEGMANN, JR., OF NEW YORK, N. Y., AND CHARLES J. BATES, OF
ENGLEWOOD, NEW JERSEY.

RAILWAY.

SPECIFICATION forming part of Letters Patent No. 446,106, dated February 10, 1891.

Application filed March 7, 1890. Serial No. 343,038. (No model.)

To all whom it may concern:

Be it known that we, EDWARD WEGMANN, Jr., of New York, N. Y., and CHARLES J. BATES, of Englewood, New Jersey, have invented certain new and useful Improvements in Railways, of which the following is a specification.

Our invention is intended more particularly for urban and suburban transportation; and it consists in various details and arrangements hereinafter set forth.

By placing the guard-rails at about the level of the sills of the cars, instead of at the level of the rails, as ordinarily done, we avoid the packing of the snow between the guard-rails and the rails, which leads occasionally to the stopping of the trains, and we also make it impossible for the cars to fall into the street in the case of the breaking of a wheel, axle, &c., while the train is running at full speed—an emergency in which the present systems of guard-rails at the level of the rails would offer but little protection.

In the accompanying drawings we have represented a railway containing our invention in what we consider its best form.

In the drawings, Figure 1 is an elevation. Fig. 2 is a section, the two upper stories being supported upon arched-masonry piers. Fig. 3 is an elevation; Fig. 4, a section, the posts extending to the foundations and masonry piers being dispensed with.

1 are the supporting-posts.

2 are the outer girders, and 3 the central girder, of the upper line, and 4 the floor-beams of the same.

5 are the outer girders, and 6 the middle girder, of the middle line, and 7 its floor-beams.

8 are the tie-rods or diagonal braces.

9, Figs. 1 and 2, are arched supporting-piers, and 10, Figs. 3 and 4, are ordinary foundations.

11 are the cars on the upper line, 12 the cars on the middle line, and 13 the cars on the surface or lower line. The latter are operated by a cable in the conduit 14 and the two former by locomotives or other suitable motive power.

15 is a subway for pipes, electric wires, &c.

16 are guard-timbers arranged at about the level of the car-sills to prevent the cars leaving the tracks or upsetting.

In practice we intend to use the middle line for through express trains and the upper line for local trains, as there will be less vibration with that arrangement than with the express trains at the top. Passengers using the several lines can take the cable line at any convenient point, ride on it to a station of the local trains, and there transfer to the latter, and in the same manner can transfer to the through trains from either the local or the cable line.

We claim—

1. A railway-line provided with guard-beams at about the level of the car-sills to prevent derailment and upsetting of the cars.

2. The combination, substantially as set forth, of the posts 1, the girders 2 and 3, the girders 5 and 6, and guard-beams 16.

E. WEGMANN, JR.
CHARLES J. BATES.

Witnesses:

LAWSON ANNESLEY,
S. W. MCKNIGHT.