2 Sheets—Sheet 1.

M. E. WALTON.

Elevated Railway.

No. 237,422. Patented Feb. 8, 1881.

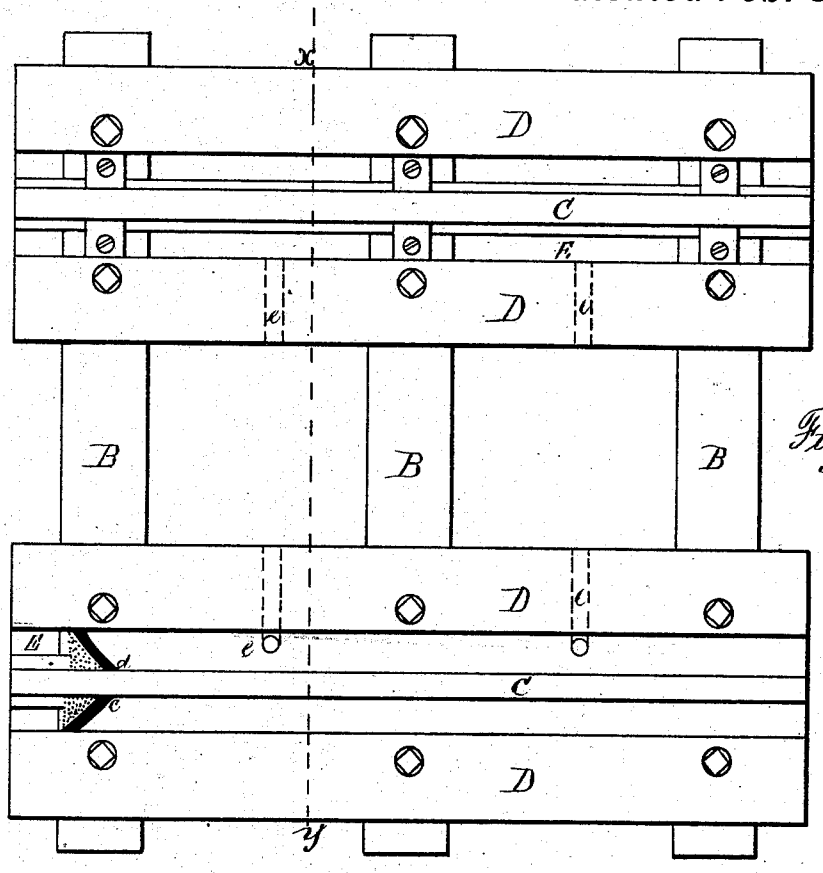
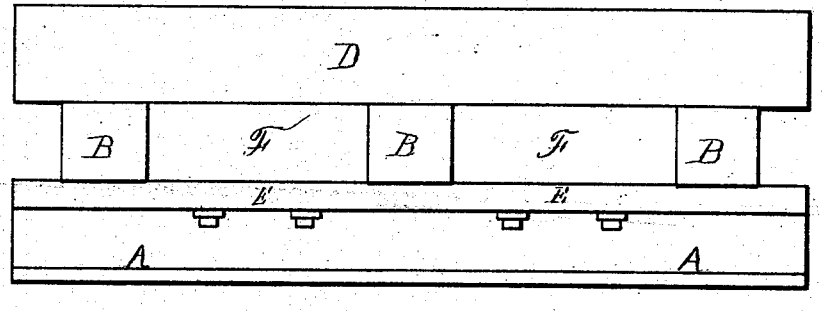


Fig 1.

Fig 2.



Witnesses
Henry D. Davis
James M. Hicks

Inventor:
Mary E. Walton

2 Sheets—Sheet 2.

M. E. WALTON.

Elevated Railway.

No. 237,422. **Patented Feb. 8, 1881.**

Fig 3

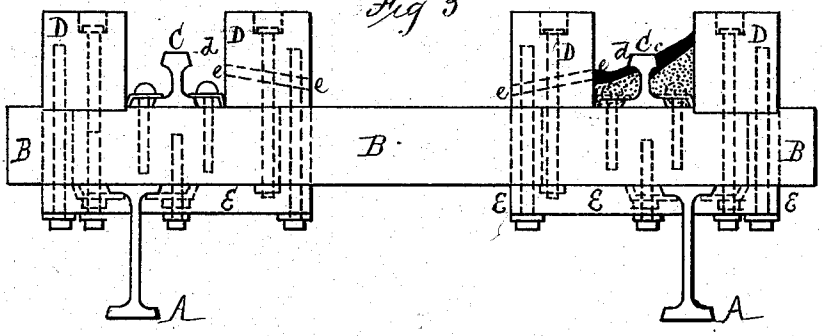
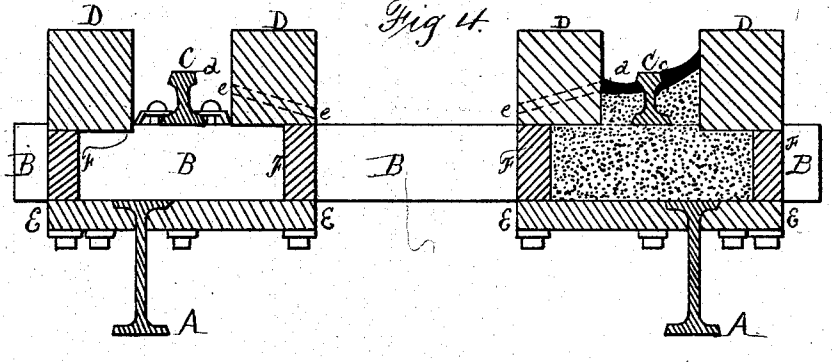


Fig 4



Witnesses
Henry D. Davis
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UNITED STATES PATENT OFFICE.

MARY E. WALTON, OF NEW YORK, N. Y.

ELEVATED RAILWAY.

SPECIFICATION forming part of Letters Patent No. 237,422, dated February 8, 1881.

Application filed January 7, 1879.

To all whom it may concern:

Be it known that I, MARY E. WALTON, of the city, county, and State of New York, have invented and made an Improvement in the Construction of the Frame-Work and Bedding for the Track-Rails of Elevated Railroads and Bridges; and I hereby declare that the following is a full, clear, and exact description and specification of the same, reference being had to the annexed drawings, making part thereof.

Before my invention the track-rails of elevated railways and railway-bridges had been laid on wooden cross-ties, (the latter being supported by wooden or iron longitudinal stringers,) and longitudinal guard-timbers had been fastened to said cross-ties on both sides of each track-rail to prevent the wheels of the cars running upon the track from leaving it. The track-rails, of elevated railways had also been laid on the top of longitudinal sleepers, the latter being inclosed in iron trough-shaped stringers supported by iron cross-ties.

My invention has for its object the deadening or absorbing of the vibrations and noises made by the wheels of the cars as they roll over the tracks of elevated railways or railway-bridges; and to this end my invention consists in certain combinations of the rails, the longitudinal guards, and the cross-ties with flooring and partitions, thus forming inclosures for bedding the rails in sand or such like materials, which smothers the noise, and when the sand is covered with asphalt the inclosed parts are protected from the weather. These combinations are specifically set forth at the end of this schedule.

In order that persons skilled in the art may understand, make, and use my improvements, I will proceed to describe them and the manner in which I have constructed them, referring to the drawings, in which—

Figure 1 represents a plan view of my invention; Fig. 2, a side elevation. Fig. 3 represents an end view. Fig. 4 represents a cross-section through line X Y of Fig. 1.

A A are the longitudinal stringers of a railroad-bridge or elevated railroad—in this case made of iron, and located nearly under the track-rails on which the wheels of the cars run. To these iron stringers are bolted ordinary wooden cross-ties, B B. They are placed at a suitable distance apart, leaving spaces between them. On these cross-ties the iron track-rails C C are bolted, and on both sides of each rail are bolted guard-timbers D D, running parallel with the rails, near enough to them and high enough to furnish secure walls to prevent the wheels of the cars from jumping off the rails. Under the cross-ties B B, and on the sides of each stringer A, is a heavy plank flooring, E E, running longitudinally parallel with the stringers and guard-timbers, and bolted securely to both. Between the bottom of the guard-timbers D D and the flooring E E are placed vertical partitions F F, which extend lengthwise from tie to tie, flush with the outer edges and sides of the flooring E E and the guard-timbers D D, thus completing the inclosure or box under each rail, between each tie and its neighbor. The inclosures are next filled with sand, or such like material, and all the space between the guard-timbers and the sides of the rails is filled with the same, nearly as high as the under side of the tread of the rail *d* on the inside, and to the tread of the rail on the outside, as at *c*. Over the top of the sand is placed asphalt or asphalt web, or any material suitably waterproof, and shaped in the manner shown, to cause the water which may fall between the guards to be discharged through the openings *e e*.

The rails being embedded in the sand, which is a non-conductor of sound, and that portion of all the ties which is near the rails being also covered with sand, nearly all the vibration and noise caused by the wheels of the cars passing over the rails is smothered and deadened. The sand acts as a deadener of sound by being in contact with the sides and bottoms of the rails, the sides and bottoms of the guard-timbers, and the top and sides of the ties. The asphalt over the sand keeps the latter dry, and thus tends to keep it in proper condition and to render it more efficient, and while by this means the structure is more cleanly, the decay which exposure of the parts to the weather would engender is prevented.

Asphalt web or cotton batting soaked in coal-tar or such like material may be placed under and around the rails in the trough, if desired, either with or without the sand.

It is obvious that the guard-timbers may be placed too far apart to act as effective guards to prevent the wheels from jumping the track and still act efficiently to retain the sand in contact with the sides of the rails.

Having now fully described my invention and the manner in which I have embodied it, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore set forth, of the track-rail of an elevated railway or railway-bridge with the guard-timbers, the cross-ties, the longitudinal stringers or sleepers, the flooring, and partitions, forming an inclosure to contain the bedding-sand, or such like material, for deadening the noise made by the wheels of cars running over said rails, substantially as set forth.

2. The combination, substantially as hereinbefore set forth, of the track-rails of elevated railways or railway-bridges with the inclosures formed by the guard-timbers, cross-ties, longitudinal stringers or sleepers, flooring, and partitions, filled with sand or such like material, and covering the said rails on the sides, to deaden the noise of the wheels running over them, substantially as set forth.

3. The combination, substantially as hereinbefore set forth, of the track-rails of elevated railways or railway-bridges with the inclosures formed by the guard-timbers, cross-ties, longitudinal stringers or sleepers, flooring, and partitions, filled with sand or such like material, and covering the said rails on the sides, to deaden the noise of the wheels of cars running over them, and the asphalt or such like material placed over the sand on each side of the tread of the rail, to protect the covered parts from the action of the weather, substantially as before set forth.

4. The combination, substantially as set forth, of the track-rails of elevated railways, the cross-ties, the guard-timbers, and the sand held in contact with the rails, by the means and in the manner substantially as herein set forth.

5. In an elevated railway, the combination, with each rail, of a separate longitudinal trough or inclosure arranged under and longitudinally of the rail, and containing sound-deadening or non-conducting material, which partly surrounds the rail.

MARY E. WALTON.

Witnesses:

HENRY S. DAVIS,

W. L. BENNEM.