J. R. HARRINGTON.

Muffling-Contrivance for Elevated-Railroads.

No. 219,397. Patented Sept. 9, 1879.

Fig. 1.

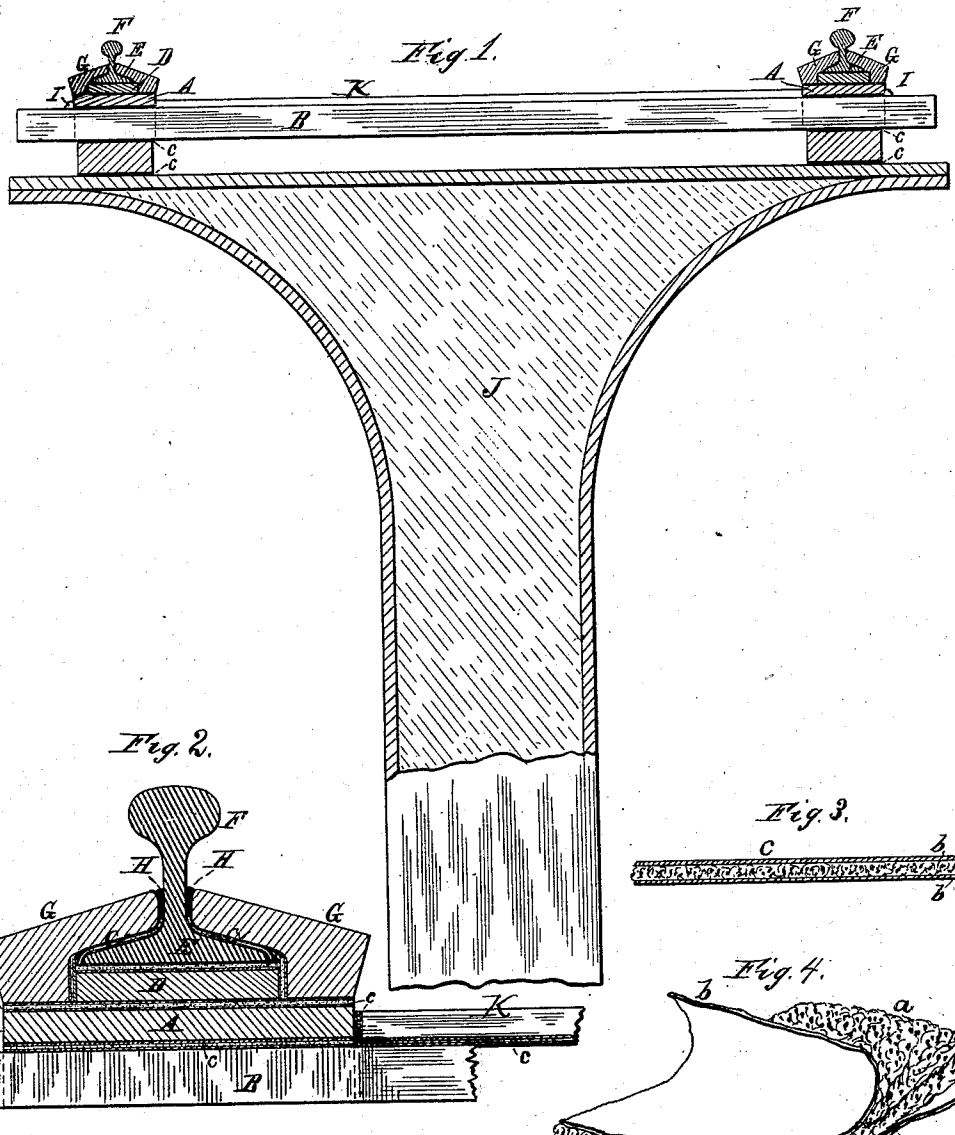


Fig. 2.

Fig. 3.

Fig. 4.

John R. Harrington

Inventor.

Witnesses:

Charles F. Searle.

W. J. Morgan.

By A. P. Thayer.

Attorney.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN R. HARRINGTON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MUFFLING CONTRIVANCES FOR ELEVATED RAILROADS.

Specification forming part of Letters Patent No. **219,397**, dated September 9, 1879; application filed July 22, 1879.

To all whom it may concern:

Be it known that I, JOHN R. HARRINGTON, of Brooklyn, county of Kings, and State of New York, have invented new and useful Improvements in Muffling Contrivances for Elevated Railroads, of which the following is a specification.

The invention consists of layers of fibrous packing interposed between the base of the rail and a wood strip on which the rail rests, also between said strip and a wood stringer laid upon the cross-ties, also between the top of the base of the rail and caps of wood which secure the latter packing, and, together with paint and sand or cement, afford protection of the packing from wet and frost, the said layers of fibrous packing being composed of a bat of cotton or jute fiber intermixed with sawdust and arranged between two sheets of coarse, heavy, and spongy paper.

The invention also consists of a stiffening-bar of wood, arranged on each tie, with the ends abutting and firmly pressing against the stringers, to prevent lateral vibration of the stringers and rails, said bars being also muffled with the aforesaid packing between them and the stringers and ties.

Figure 1 is a transverse sectional elevation of a portion of an elevated railroad with my improved muffling contrivances applied to it. Fig. 2 is an enlarged transverse section of the rail, stringer, caps, &c., showing the packing devices more clearly. Figs. 3 and 4 are details of the packing itself.

A represents the stringers, of wood, laid on the ties B, and notched or boxed on them, with pieces of the packing C interposed between them and the ties, said packing being the bat *a* of cotton jute or other cheap coarse fiber mixed with sawdust and arranged between the paper sheets *b*. On the upper side of the stringers a piece of the packing C is first laid, on which the wood muffling-strip D, of the same breadth as the base E of the rail, is laid, and between this strip D and the rail is another strip of packing, C. Then above the base on each side of the neck of the rail F, and partly up along the sides of the neck, more of the said packing is arranged, over which and snugly against the sides of the neck the wood caps G are fitted and secured, being fastened down with spikes or screws, the said caps being broad enough to cover the stringer A and the packing above it, which is as broad as the stringer itself, to protect the packing from rain and snow; and at the upper edges the joints are filled with sand or cement H, Fig. 2, and coated heavily with paint to make sure protection there against water.

K represents the transverse stiffening-mufflers, of wood, arranged on the ties, and firmly bearing at the ends against the sides of the stringers, with packing C under them and between the ends and the stringers to steady the rails laterally and assist in preventing noise. They are firmly secured by spikes or bolts.

One or more layers of the packing C will be employed between each part, according as may be found best.

The whole of the wood-work is then painted with fire-proof paint and then dashed with sand, both for protection against fire and weather and to assist also in deadening the sound.

The little cleats I on the ties along the outsides of the stringers and the ends of the bars K inside exclude the water from the packing under the stringers.

By muffling the top of the base of the rail and the neck, or a portion of it, much less sound will be made than when only the under side and the supports below are muffled, and by the contrivance for the protection of the packing from the weather the power to prevent the sound will be preserved, so as to make the use of this kind of packing practicable, which it is believed has greater efficacy than india-rubber or cork, which have been used to some extent under the rails and ties.

This packing C may be made in one single sheet of fabric when preferred by mixing the sawdust and fibrous materials with the pulp before or when it is spread out on the apron of the paper-machine, and I propose to make it in this manner in some cases. The constituent parts will be the same and the effect the same in practice, the only difference being greater convenience of handling it and less waste of the sawdust.

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

1. The described packing of cotton or jute fiber intermixed with sawdust, and arranged between two layers of coarse paper, combined with the stringers, ties, and rails, and being interposed between the bearings of the same, one upon another, when provided with caps and cement joints, and protected thereby from rain or snow in the manner described.

2. The tie B, stringer A, wood muffler-strip D, and rail-base E, combined and arranged, and having the described packing C interposed between them, substantially as described.

3. The described packing C upon the upper side of the base, and the caps G, combined with the rail and the stringer A, substantially as described.

4. The transverse stiffening-mufflers K, combined with the tie B, stringer A, and the described packing C, substantially as described.

his
JOHN R. × HARRINGTON.
mark.

Witnesses:
A. P. THAYER,
W. J. MORGAN.