G. P. OSBORNE.

Sound-Deadening Device for Elevated Railroad.

No. 218,895. Patented Aug. 26, 1879.

Fig. 1,

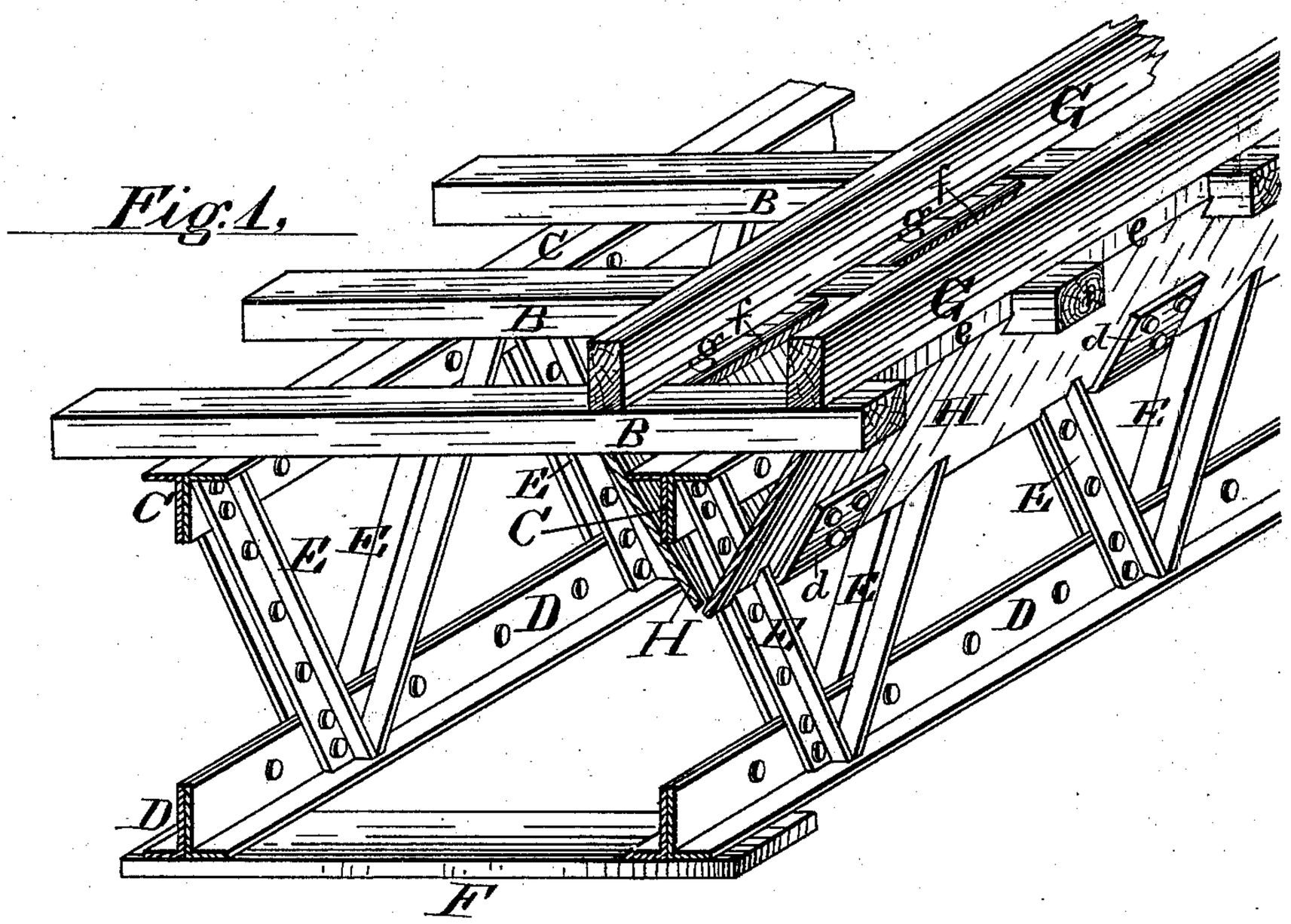


Fig. 2,

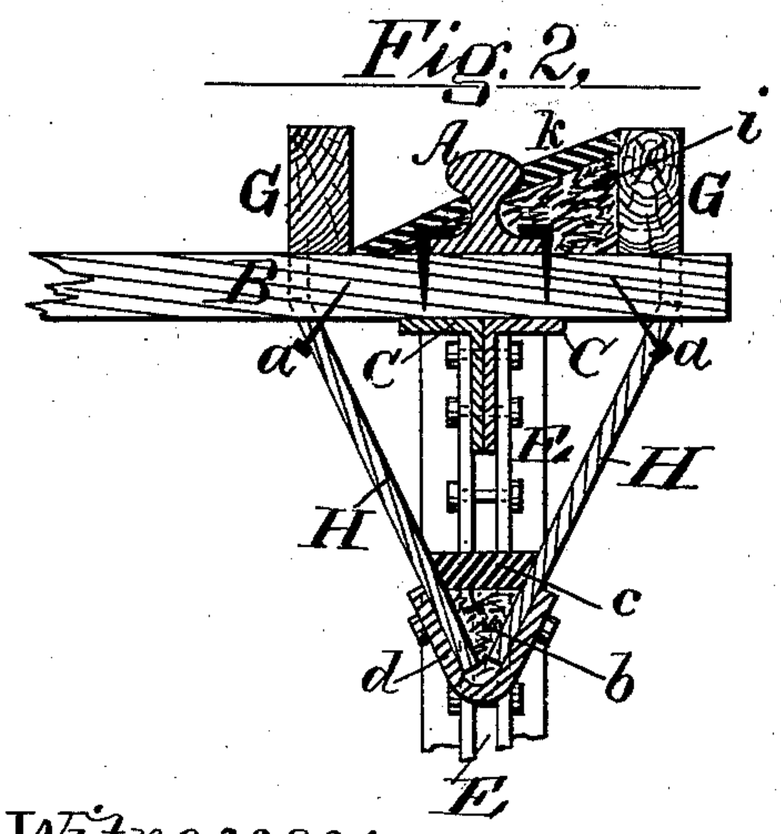
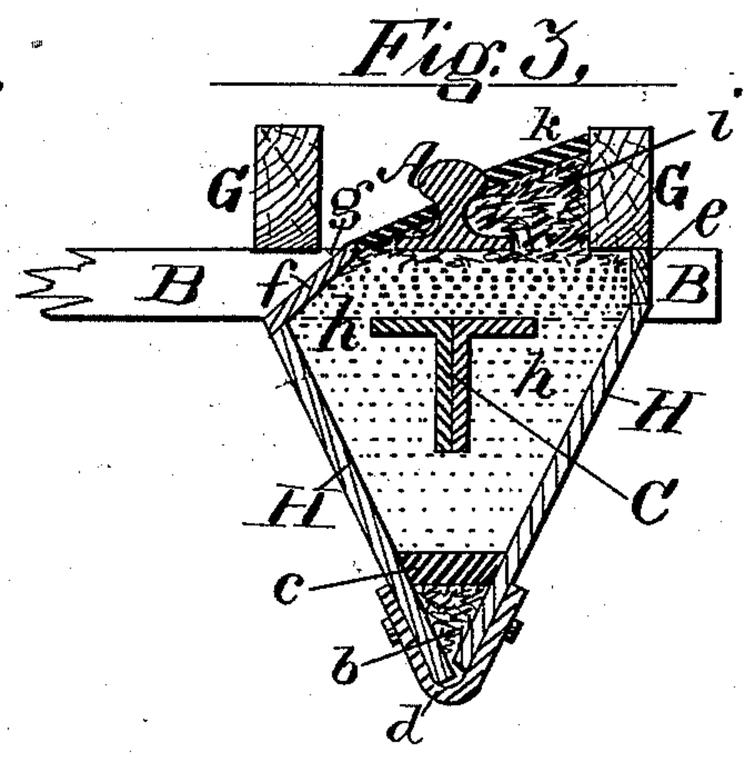


Fig. 3,



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE P. OSBORNE, OF NEW YORK, N. Y.

IMPROVEMENT IN SOUND-DEADENING DEVICES FOR ELEVATED RAILROADS.

Specification forming part of Letters Patent No. **218,895,** dated August 26, 1879; application filed August 1, 1879.

To all whom it may concern:

Be it known that I, GEORGE P. OSBORNE, of the city, county, and State of New York, have invented certain new and useful Improvements in Sound-Deadening Devices for Elevated Railroads, of which the following is a specification.

My present invention is an improvement on that described and shown in my application for Letters Patent filed in the United States Patent Office January 22, 1879, and now in interference with the applications of sundry other parties embracing the same general subject-matter.

It has been my object to simplify and improve and cheapen the construction of the box for containing the sound-deadening material; to so arrange it and combine it with the elevated-railway structure that it will be better and more securely supported and maintained in position; to better adapt it to receive and hold the sound-deadening substance, and to do away with the scuppers which, under the old construction, it was necessary to form in the guard stringers or rails. To this end I make the box of **V**-form, consisting simply of two boards secured at their upper edges to the under side of the ties or roadbed, and converging so that their lower edges will meet, or nearly meet. Under this arrangement I dispense with the bottom board or plank which would be required in a square box, and avoid all necessity of making finished or carpenter joints or of calking the joints, all that is required being to lay oakum in the angle where the lower edges adjoin one another, and then to pour asphalt or its equivalent upon the oakum. The converging boards which form the trough or box I let into inclined braces which support the longitudinal girders on which the ties rest, and this enables me to cause these braces to carry the weight of the box and to directly act to sustain and hold in position the boards of which the box is composed.

My improvement can, however, best be explained and understood by reference to the accompanying drawings, in which—

Figure 1 is an isometric perspective view of so much of an elevated-railway structure as needed to illustrate my present invention. Fig. 2 is a transverse section of one rail and box, the plane of section being through one of the ties. Fig. 3 is a like section of said parts, the plane of section being through the space intervening between any two of the ties.

In Fig. 1 I have omitted the rail in order to show more clearly the other parts of the structure. It is, however, shown at A in the sectional views, Figs. 2 and 3.

The rail rests on and is fastened to the ties B, (usually placed about ten inches apart,) which, in turn, are supported by the longitudinal metallic girder C. From the upper girder extend inclined metallic braces E to a lower girder, D, and the latter rests on metallic cross-beams F, which are supported upon pillars or posts in the usual way.

G are the wooden guard rails or stringers.

In order to form the sound-deadening box I make use of two planks or boards, H, which at their upper edges meet and are secured to the ties B by spikes or screws *a*, or by any other suitable means, and may be let into the ties, as shown. These boards converge so that their lower edges will meet, or nearly meet, as shown, and they thus form a **V** box or receptacle.

A finished or carpenter's joint is not needed at the angle of the **V**, nor, indeed, is it necessary that the boards should meet. The angle is made tight by putting in oakum *b* at the bottom, which can be done readily and without the use of calking-irons or the like, and then over the oakum is poured asphalt or its equivalent *c*, which completely closes the joint. Should there be much of an opening at the bottom, wooden filling-pieces can be thrown in before the oakum is laid down.

The **V** receptacle thus formed incloses the girder C, and also a portion of the vertical inclined braces E, these braces being in the same vertical plane as the rail A. I notch or indent the boards H at the points where their converging lower parts meet the braces, as shown, and I thus at these points let the braces into the boards, the object being twofold: first, to bring the lower edges of the boards near together, and, secondly, to secure and hold the boards and provide a means whereby the weight of the trough can be better and more securely sustained. Owing to the inclination

of the braces, the tendency of the trough to settle has the effect of wedging and jamming the boards more tightly and securely in engagement with the braces, which thus serve to uphold the weight and keep the boards in place.

The boards H at their lower edges can be held together by straps *d*, or bolts, or other means. Owing to the support and maintenance they derive from the braces, they do not require elaborate or frequent fastening in order to be held together.

The trough, as described, can be put up economically and expeditiously. The boards can be in the rough, and do not, as before said, require finished joints. To continue the trough or inclosure up to the guard-rails above, I make use in the intervals between the ties of wooden filling-pieces *e*.

In order, however, to afford free escape on the inner side of the railroad-rail for water, I arrange the filling-pieces on this side, as shown at *f*. These inner filling-pieces have preferably an inclined or slanting outer face, and they do not reach up as far as the inner guard-rail, thus leaving below this guard-rail an opening, *g*, through which water can freely pass. There is just as great length of opening, in fact, as though there were no trough at all. I thus give great facility for water-escape, prevent accumulation of water around the rail, avoid the necessity of boring scupper-holes through the guard-rail, (a point of considerable importance, inasmuch as the rail is some eight inches thick,) and reduce liability of the discharge-openings becoming stopped up or clogged.

The body of the box is to be filled up with sand or other sound-deadening substance *h*, with top dressing or finishing upper layer of oakum *i* and asphalt *k*.

I state, in conclusion, that I do not here claim 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; nor do I here claim, for the purpose of containing sound-deadening material, boxes formed in part of the guard-rails or stringers; nor do I here claim the combination, with the track-rail and the guard-rails, of an inclosure or trough provided with a sound-deadening filling and a water-proof top surface or cover therefor; nor do I here claim, broadly, scuppers in combination with rails, troughs, filling, and waterproofing for conducting off the water which would otherwise collect between the guard-rails. The foregoing matters are shown in my aforesaid application for Letters Patent filed January 22, 1879, and are involved in the interference hereinbefore mentioned; but

What I here claim is as follows:

1. The combination, with the track-rails, the ties, the supporting-girders therefor, and the braces which uphold said girders, of the V trough or receptacle for sound-deadening material, extending downward from the ties and inclosing the girders, and engaging and supported by the braces, as and for the purposes shown and set forth.

2. The V trough or receptacle formed of the boards or planks H, notched or indented to engage at their converging lower edges the inclined braces E, and provided at their point of meeting with a water-proof filling, said trough being fitted and applied to the structure, as herein shown and set forth.

3. In combination with the track-rails, the guard-rails, the ties, and the body of the sound-deadening trough, the inner filling-pieces, *f*, formed and arranged to leave an opening between them and the inner guard-rail above, as and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 30th day of July, A. D. 1879.

GEORGE P. OSBORNE.

Witnesses:

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