No. 791,772. PATENTED JUNE 6, 1905.

G. GOW.

RAIL SUPPORT.

APPLICATION FILED MAR. 30, 1905.

Fig. 1.

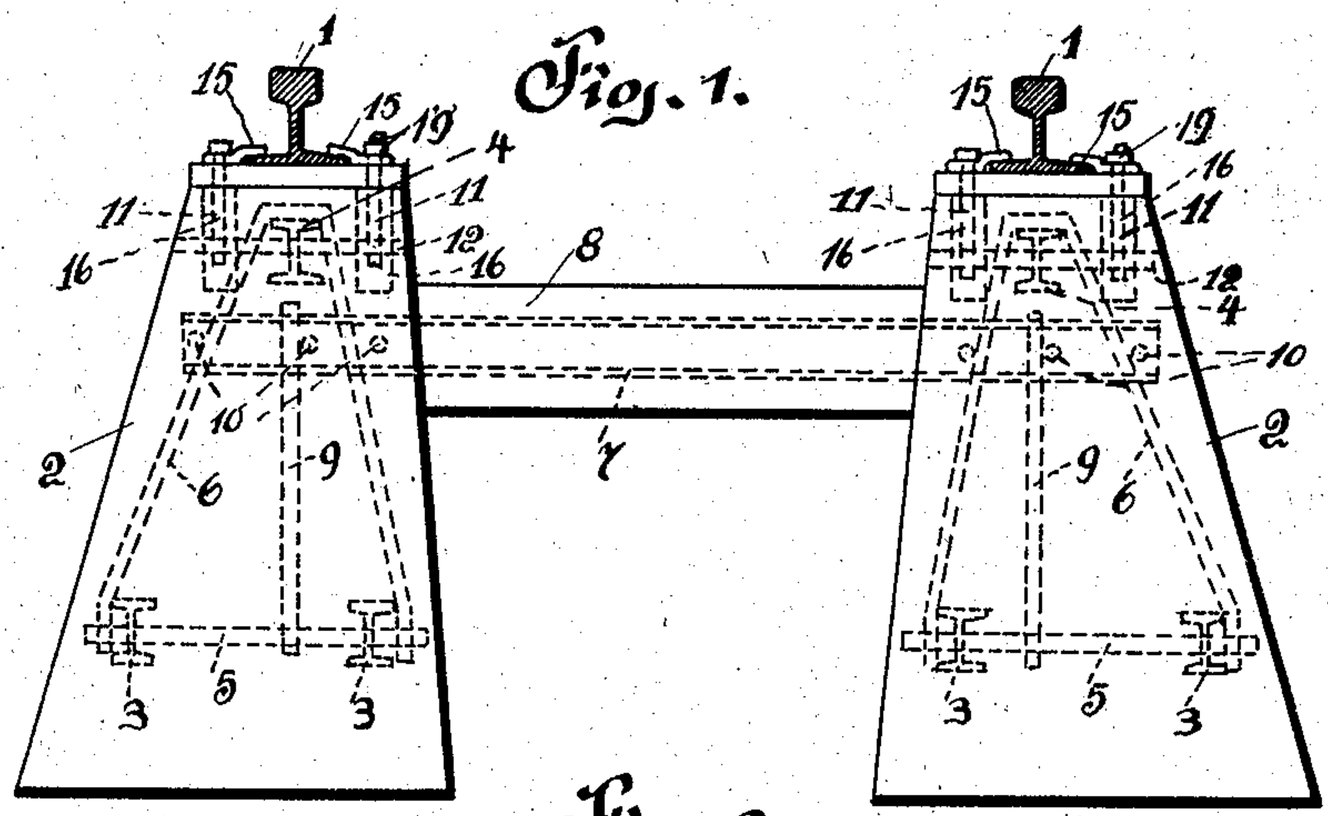


Fig. 2.

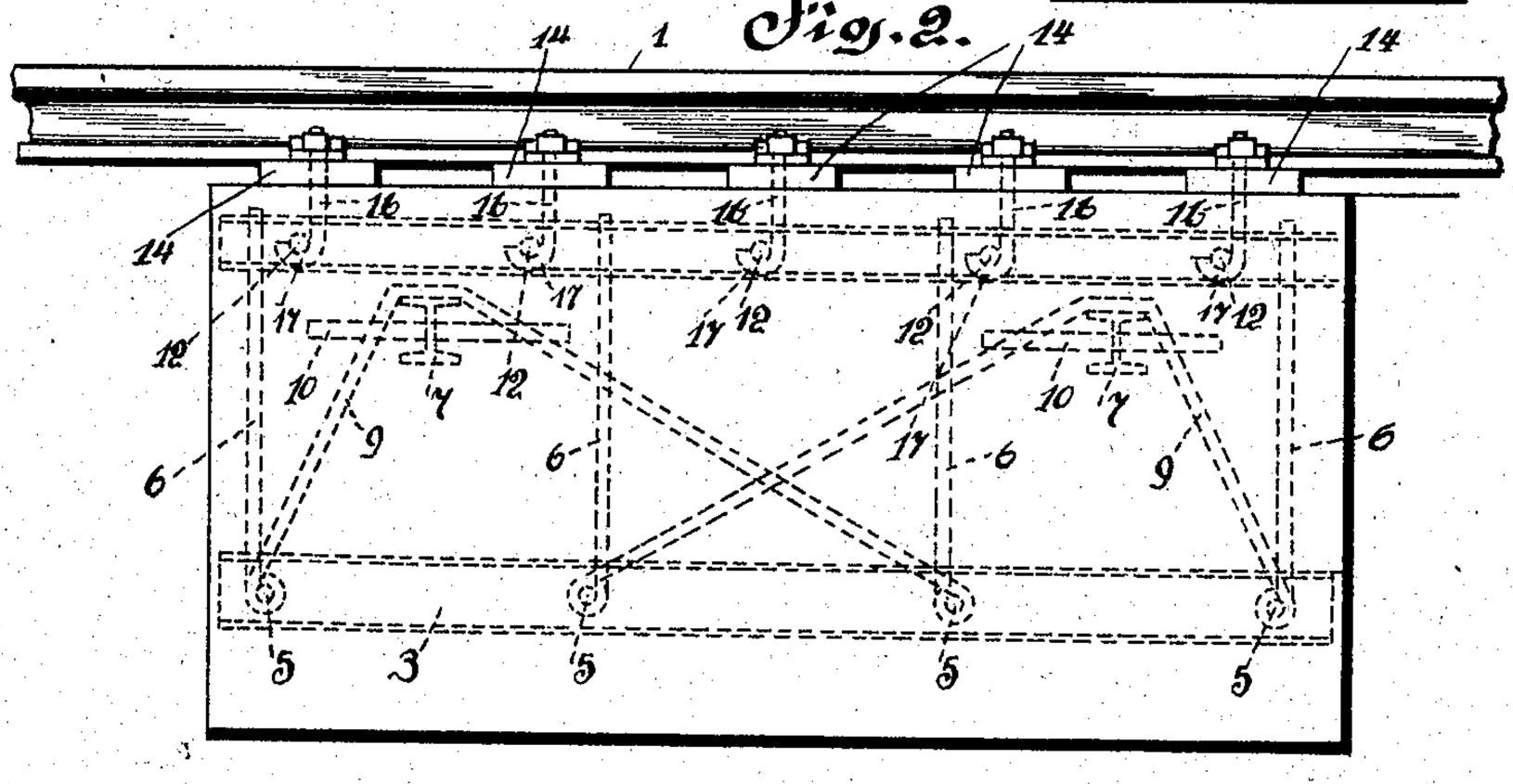
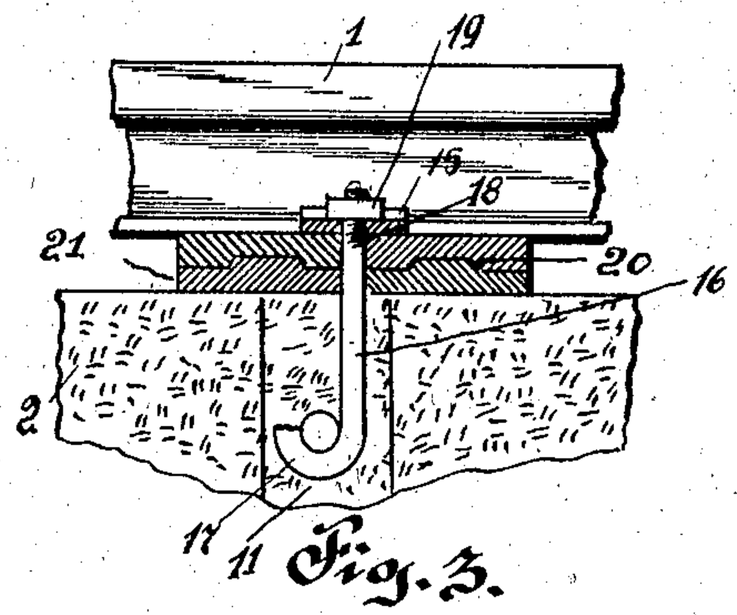


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE GOW, OF CARNEGIE, PENNSYLVANIA.

RAIL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 791,772, dated June 6, 1905.

Application filed March 30, 1905. Serial No. 252,860.

To all whom it may concern:

Be it known that I, GEORGE GOW, a citizen of the United States of America, residing at Carnegie, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Supports, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in rail-supports, and more particularly to a base composed of a composition of matter adapted to support rails.

The object of this invention is to provide a novel form of construction particularly adapted for supporting-rails, and the invention aims to dispense with the use of the ordinary wooden cross-ties, which have been heretofore transversely laid upon a suitable road-bed to support one or more sections of rails.

I have devised a concrete construction adapted to serve as a road-bed and tie for rails, and in connection with the concrete construction I have provided novel means for bracing and strengthening the construction and novel means for securing rails to said construction.

My improved rail-supports are adapted to provide a permanent foundation for rails that will not be susceptible to vibrations occasioned by rolling-stock passing over the same.

By employing a concrete construction or foundation for rails I lengthen the durability and life of the road-bed of a railway system, at the same time dispensing with the jar and vibrations heretofore experienced when riding over a road constructed of ballast and ties.

The invention finally consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described and then specifically pointed out in the claims, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is an end view of my improved rail-supports, illustrating two rails mounted thereon. Fig. 2 is a side elevation of one of said supports, and Fig. 3 illustrates a novel form of cushioning-plate that may be employed in connection with my improved rail-supports.

To put my invention into practice, I preferably construct the supports of concrete of a durable nature and of steel beams, tie-rods, and bars, these elements being combined to produce a firm and durable foundation for rails.

By referring to Fig. 1 of the drawings it will be observed that I have illustrated a track comprising rails 1 1 as supported by my improved construction. The particular form of the supports dispenses with a road-bed of ballast and transversely-arranged cross-ties, my improved construction being preferably formed parallel with the rails 1 1, as illustrated in Fig. 2 of the drawings, and I may provide my improved construction the entire length of the rails, or I may construct it in sections, one of which is illustrated in Fig. 2 of the drawings.

The concrete bases 2 2 are substantially trapezoid in cross-section, the top and bottom surfaces being parallel, while the outer side of each construction or base is formed upon a more acute angle than the inner or confronting sides of the bases. The area of the bottom surfaces of the bases and the inclined outer sides of the same tend to strengthen the construction and prevent the rails 1 1 from spreading. To strengthen and brace the construction, I embed within the concrete substantial I-beams 3 3 and 4, the beams 3 3 being arranged near the base of the construction and parallel with one another, while the beam 4 is preferably located centrally within the concrete near the top surface thereof. The beams 3 3 are secured together by cross-rods 5 5, and the beams 3 3 and the cross-rods 5 are tied to the beams 4 by straps 6 6. Each strap after being arranged over the beam 4 has its ends secured to the protruding ends of the rods 5, as clearly illustrated in Figs. 1 and 2 of the drawings. To further strengthen my improved construction, I employ transverse beams 7, which are mounted between the concrete bases of each of the rails 1 1. These tie-beams are preferably arranged at intervals between my improved construction, and that

portion of the beams lying between the constructions is preferably inclosed in concrete 8. The ends of the tie-beams extending into the concrete bases are tied to the longitudinally-disposed beams 3 3 by rods 9. The rods 9 extend over the transverse tie-beams 7 and have their ends secured to every alternate cross-rod 5, as illustrated in Fig. 2 of the drawings. To assist in supporting the ends of the tie-beams 7 within the concrete bases, I provide the ends of each beam with a plurality of longitudinally-disposed rods 10, which serve to firmly anchor the ends of the tie-beams within the bases 2 2.

To provide for securing rails 1 1 upon my improved construction, I provide the concrete bases 2 2 with recesses 11 11, these recesses being arranged at intervals within the top surface of the bases and near the edges thereof. Each recess extends a considerable distance within the concrete bases, and passing transversely through each set of recesses is a rod 12, this rod also passing through the longitudinally-disposed beams 4. To the rod 12 is adapted to be connected the rail-fastening means employed for retaining the rails 1 1 upon the concrete bases 2 2.

As a cushioning-plate for the rails 1 1 I preferably provide wooden blocks 14, which are mounted directly above each set of recesses 11, and upon these blocks the rail-sections are adapted to rest. To retain the rails thereon, I provide plates 15, adapted to overlie the edges of the bases of the rails, and these plates are secured in position by substantially hook-shaped pins or bolts 16. Each bolt is provided with a substantially hook-shaped end 17, adapted to engage around the rods 12 within the recesses 11, and the upper end of each bolt passes through the wooden blocks 14 and the plates 15 and is threaded, as indicated at 18, to receive a nut 19.

In Fig. 3 of the drawings I have illustrated a modified form of construction of cushioning-blocks that may be employed in lieu of the cushioning-blocks 14 illustrated in Figs. 1 and 2 of the drawings. The cushioning-plate illustrated in Fig. 3 of the drawings is preferably made of wood or metal and has its bottom surface provided with recesses 20, and beneath the bottom of the plate I may provide an auxiliary cushioning-plate of papier-mâché or the like resilient material, as indicated at 21.

From the foregoing description, taken in connection with the drawings, it will be apparent to those familiar with railway construction that I have devised a unique roadbed for tracks that will withstand the rough usage to which it will be subjected by rolling-stock passing over the same and will withstand the action of the forces of nature, which is a factor to be dealt with.

I do not care to confine myself to the exact or specific shape of the concrete supports herein shown, as they may be enlarged to support third rails and switch-rails, which are necessary in railway construction, and while I have herein illustrated the preferred manner of constructing my improved supports it is obvious that the same is susceptible to various changes which may be made without departing from the general spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

1. A support for rails consisting of concrete constructions having beams arranged longitudinally therein, rods connecting said beams, transverse beams arranged within said constructions, rods connecting said beams and the first-named beams together, cushioning-plates carried by said constructions, and means to secure rails to said constructions, substantially as described.

2. Rail-supports of the character described consisting of two bases, beams longitudinally disposed within said bases, rods connecting said beams, transversely-disposed beams connecting said bases, rods connecting said beams with the first-named beams, said bases having a plurality of recesses formed therein, cushioning-plates mounted above said recesses and adapted to support rails, and means mounted within said recesses to secure said rails upon said bases.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE GOW.

Witnesses:
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GEORGE M. SCHMIDT.