

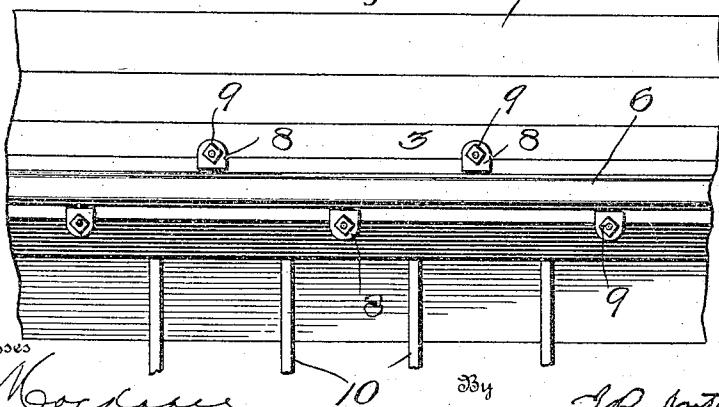
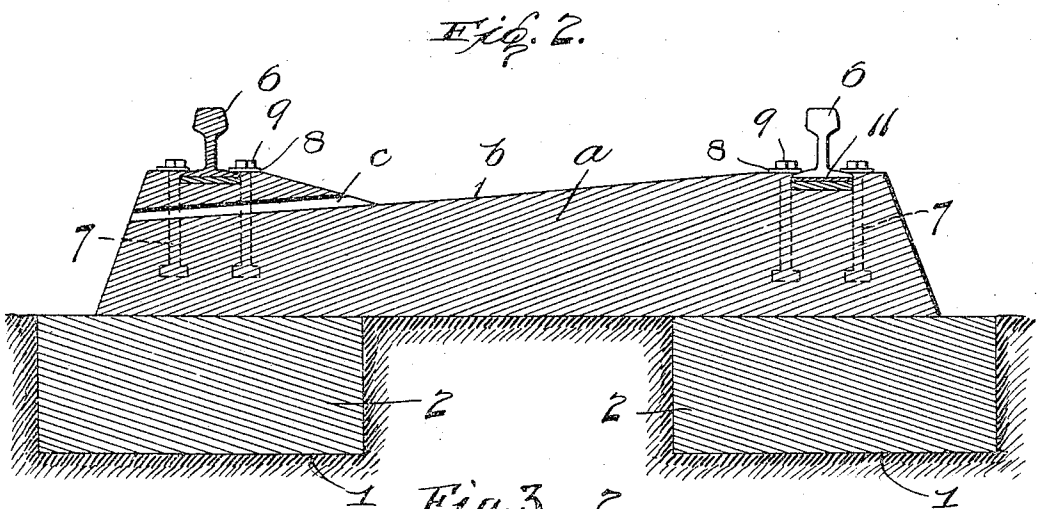
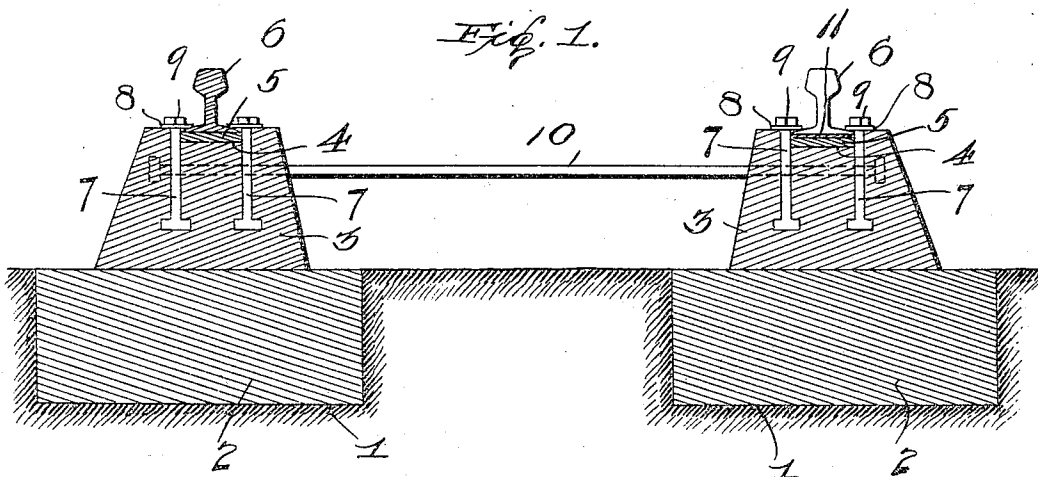
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PATENTED JUNE 13, 1905.

A. H. JACKSON.
CONSTRUCTION OF RAILWAY ROAD BEDS.

APPLICATION FILED OCT. 20, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4.

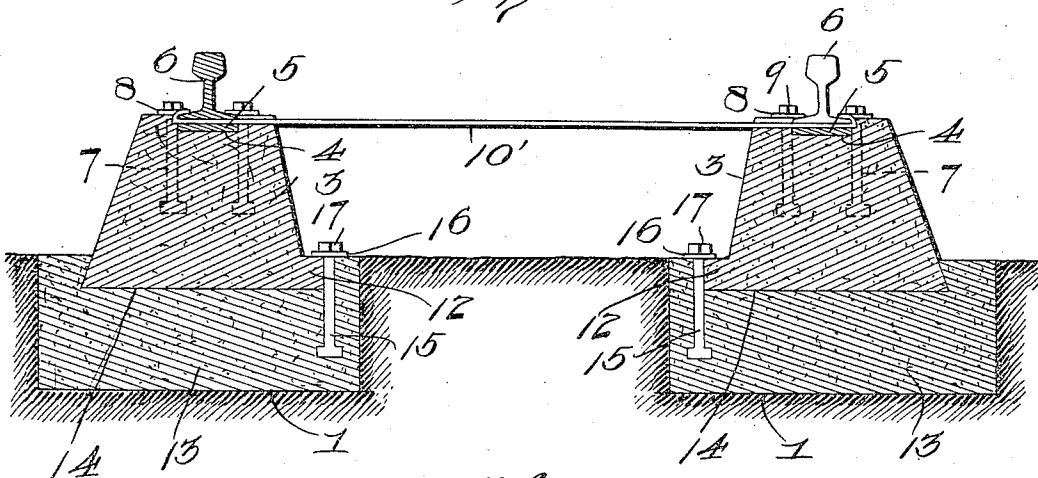


Fig. 5.

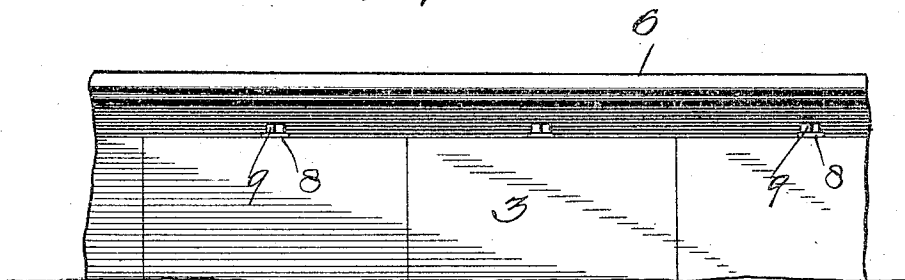


Fig. 6.

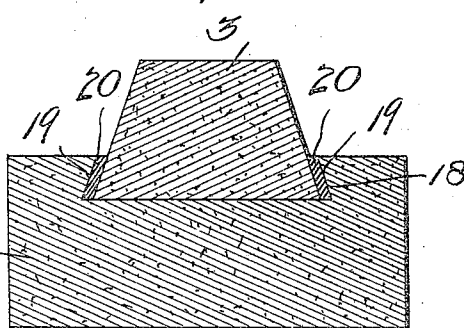


Fig. 7.

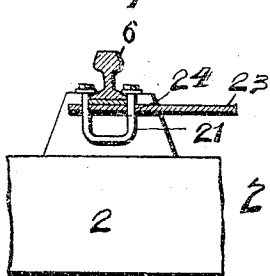
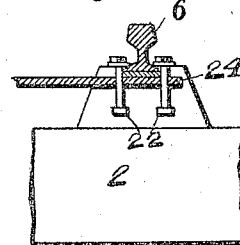


Fig. 8.



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UNITED STATES PATENT OFFICE.

AMOS H. JACKSON, OF FREMONT, OHIO.

CONSTRUCTION OF RAILWAY ROAD-BEDS.

SPECIFICATION forming part of Letters Patent No. 792,268, dated June 13, 1905.

Application filed October 20, 1904. Serial No. 229,264.

To all whom it may concern:

Be it known that I, AMOS H. JACKSON, a citizen of the United States, residing at Fremont, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in the Construction of Railway Road-Beds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates in general to the construction of road-beds for the support of railway-tracks, but has reference more particularly to an autocar-railway system; and it consists in constructing a suitable base and erecting thereon a superstructure of concrete upon which the rails forming the track are laid or seated and firmly secured against lateral displacement, the parallel concrete superstructures being rigidly maintained in proper relative position by means of tie-rods.

In constructing railways the object which generally receives the most careful consideration is economy in construction, and therefore one of the most important objects of my invention is to cheapen the cost of construction of this class or type of road-beds and at the same time produce a practically indestructible structure, one in which the requirement of constant supervision and frequent repairs will be dispensed with.

Another important object due to the novel construction of my improved road-bed is the almost absolute prevention of washouts.

Other objects of the invention will become apparent upon a more detailed description thereof.

In the drawings, Figure 1 is a transverse vertical section of my improved road-bed and track; Fig. 2, a similar view showing space between superstructures filled in; Fig. 3, a top plan view of a portion of the road-bed; Fig. 4, a transverse vertical section of a modification; Fig. 5, a side elevation of the same; Fig. 6, another modification, and Figs. 7 and 8 modified forms of rail-securing devices.

In constructing a road-bed and railway-track in accordance with my invention the earth bed is properly graded and two parallel

trenches 1 1 are made. The trenches are compactly filled with broken stone and cement grout to provide solid and substantial bases 2 2 for the concrete superstructures 3 3, or foundations of stone blocks laid in cement may be built in the trenches, on which to erect the superstructures, the said superstructures being preferably trapezoidal in cross-section to insure greater strength, the degree of inclination of the outer wall being much greater than that of the inner wall. The upper surface of each superstructure is formed or constructed with a longitudinal depression or groove 4, in which is placed a cushion 5 of any suitable material, preferably wood, the depression being of sufficient depth to receive not only the cushion, but also the flange of the rail 6, which is seated thereon.

In constructing the superstructures two parallel rows of bolts 7 are embedded therein, the bolts of one row being preferably staggered, as to position, to the other row. These bolts, it will be noted, are placed in line with the walls of the depressions 4, one row in line with each wall, so that when the rails are seated upon the cushions in said depressions the inner and outer edges of the flanges of said rails will have a firm bearing against the rows of bolts. The rails are firmly secured in their seats upon the superstructures by means of apertured plates or washers 8 and nuts 9, the plates or washers fitting over the bolts and having a bearing upon both the superstructure and flanges of the rails, and any tendency of the rails to spread is prevented by the solidity of the structure, the firm bearing against the bolts 7, and by the additional means of tie-rods 10, which have their headed ends preferably embedded in the concrete superstructures, as shown in Fig. 1. In lieu of the tie-rods 10 tie bars or plates 10' may be employed, as shown in Fig. 4, the respective ends of said bars being hook-shaped to engage the flanges of the rails.

By providing the cushioned seats for the rails the shock or jar incident to trains passing over the track will have no injurious effect upon the superstructures.

In case the road-bed is to be constructed for an electric-railway system bond-plates 11, of

copper, may be placed under the adjacent ends of the rails, as shown in Figs. 1 and 2, in place of the side-rail connections ordinarily employed.

5 The space between the superstructures may be filled in with a concrete filling *a*, and the upper surface of the concrete filling may be sloped toward either rail to provide a drain *b*, and drain-conduits *c* may be made through
10 one of the superstructures to carry off the water.

In some cases it may be desirable to mold the superstructures in sections, as shown in Figs. 4 and 5, in which case I prefer to form
15 the inner wall of the sections with a ledge 12 and form in the upper surface of the base or foundation 13 a channel 14, in which to seat the sectional superstructure, the outer wall of the channel being undercut to conform to
20 the inclination of the outer wall of the superstructure, as shown in Fig. 4, so that by means of the bolts 15, which are embedded in the base or foundation, and the washers 16 and nuts 17 the sectional superstructure may be
25 firmly and rigidly secured upon its base.

In the form shown in Fig. 6 the walls of the channel are undercut to form a dovetail channel 18, and the superstructure is of less width than the channel, so as to leave a space
30 19 on each side of the superstructure to be filled with concrete, thus forming a key 20, which tends to hold the superstructure firmly in its seat and against lateral displacement.

A road-bed constructed as hereinbefore described will permit of the employment of
35 much lighter steel rails than are now in use on many of the lighter or narrow-gage railroads, thereby effecting a material saving in the cost of construction of the road.

40 Various changes or modifications other than those hereinbefore stated may be made without departing from the spirit of my invention or sacrificing the principle thereof—such, for instance, as employing U-shape bolts 21 to
45 secure the rails upon the superstructure and tie-rods 23, having perforations 24, through which the arms of the said bolts may pass, as shown in Fig. 7, or bolts 22 may be employed, as shown in Fig. 8, and the upper ends passed
50 through the perforations 24 in the ends of the tie-rod.

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

55 1. A railway road-bed formed of parallel

bases, superstructures having depressed rail-seats erected upon said bases, and means for preventing the lateral displacement of the superstructures.

2. A railway road-bed formed of parallel bases constructed of broken stone and cement grout, concrete superstructures having depressed rail-seats erected upon said bases, and means for preventing the spreading of the
60 superstructures. 65

3. A railway road-bed formed of parallel bases of broken stone and cement grout, concrete superstructures having depressed rail-seats erected upon the bases, and tie-rods connecting the superstructures together, to prevent lateral displacement. 70

4. A railway road-bed and track constructed of parallel bases or foundations of suitable material, a superstructure having a rail-seat erected upon each base, means for preventing
75 the lateral displacement of the superstructures, and rails secured in the rail-seats.

5. A railway road-bed and track constructed of parallel bases or foundations, a superstructure having a depressed rail-seat erected upon
80 each base, means for preventing the lateral displacement of the superstructures, a cushion of suitable material arranged in the rail-seat of each superstructure, and rails secured in the rail-seats. 85

6. A railway road-bed and track constructed of parallel bases or foundations, a superstructure having a depressed rail-seat erected upon
90 each base, means for preventing the lateral displacement of the superstructures, a cushion of suitable material in the rail-seat of each superstructure, rails seated in the cushioned seats, bolts embedded in the superstructure, and plates and nuts for securing the rails to
95 said superstructure.

7. A railway road-bed constructed of parallel bases or foundations having channels fixed in their upper surfaces, sectional superstructures seated in said channels and secured
100 therein, said superstructures having rail-seats in their upper surface, means for preventing lateral displacement of the superstructures, and rails secured in the rail-seats.

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

AMOS H. JACKSON.

Witnesses:

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J. R. NOTTINGHAM.