

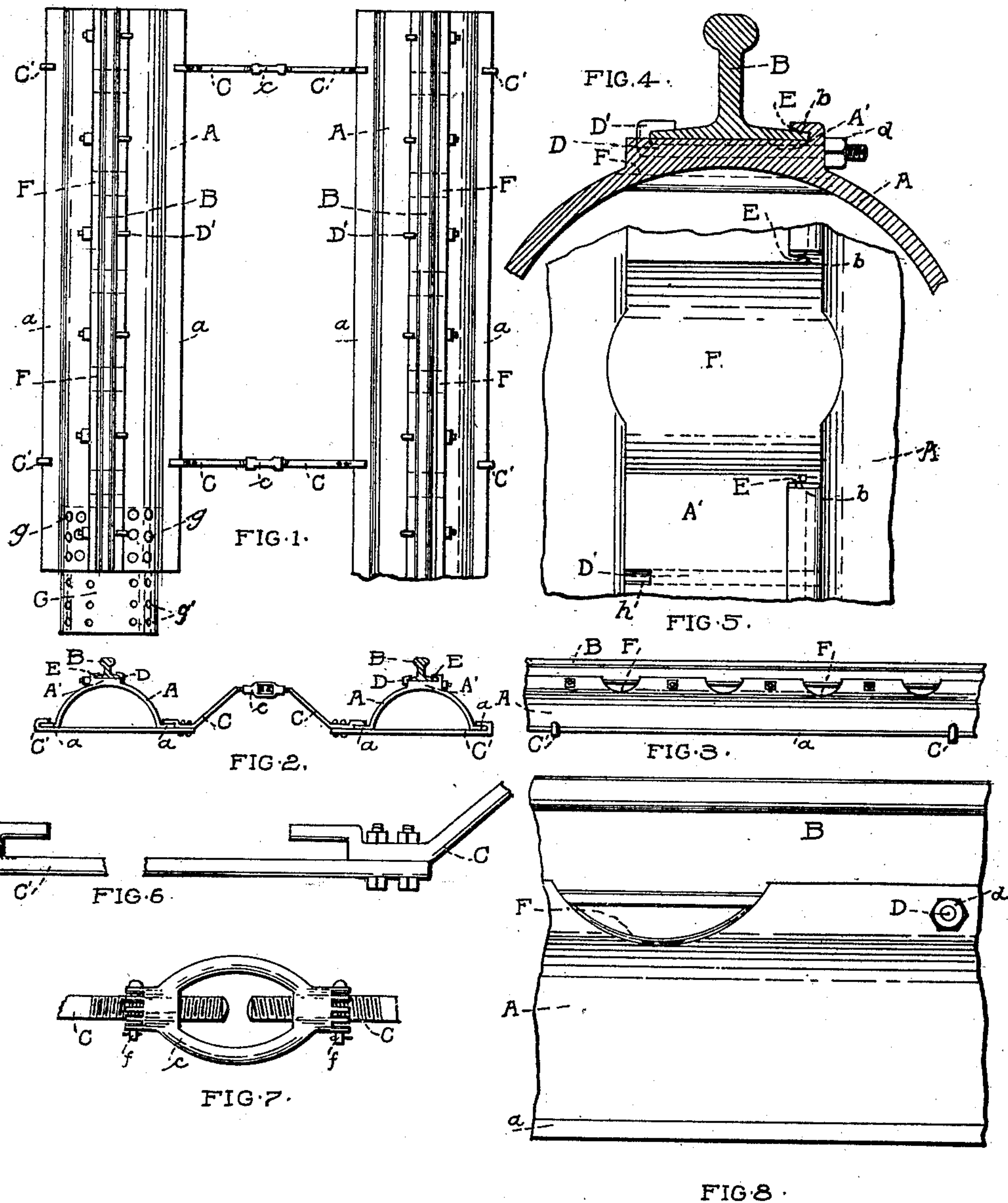
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Patented Apr. 8, 1902.

M. I. GILBERT.
PARALLEL RAILWAY RAIL BEARING.

(Application filed Jan. 9, 1902.)

(No Model.)



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MANLEY I. GILBERT, OF WATHENA, KANSAS.

PARALLEL RAILWAY-RAIL BEARING.

SPECIFICATION forming part of Letters Patent No. 697,081, dated April 8, 1902.

Application filed January 9, 1902. Serial No. 88,950. (No model.)

To all whom it may concern:

Be it known that I, MANLEY I. GILBERT, a citizen of the United States, residing at Wathena, in the county of Doniphan and State of Kansas, have invented certain new and useful Improvements in Parallel Railway-Rail Bearings; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in bearings of railway-rails; and my objects are to entirely dispense with cross-ties, providing in lieu thereof parallel metal bearings that can be readily adjusted to the gage of any tracks, that will render the use of spikes unnecessary, that will have a greater and more equally distributed surface-bearing than ties, thus securing greater solidity and safety, that are adapted to carry water off the road-bed, that will prevent the growth of weeds under the rails, and that will be more permanent than wooden ties.

In the drawings, Figure 1 is a plan of my invention, showing two of my parallel rail-bearings with the rails thereon and the connecting-rods and turnbuckle. Fig. 2 is an end view of my device, including the transverse metal straps underneath the rail-bearings. Fig. 3 is a detail side view of the rail-bearing and rail, showing the water-outlet depressions, the bolts, and the clamp ends of the straps on the outer flange of the rail-bearing. Fig. 4 is an end elevation of the rail-bearing and the rail-seat with rail thereon and the shoulder and bolt by which the rail is clamped to the rail-seat. Fig. 5 is a top view of a section of the rail-seat with the rail removed, showing the depression in the top of the rail-bearing, the shoulder, and the slot end of the orifice to permit the clamp end of the bolt to protrude and clamp over the inner flange of the rail. Fig. 6 is a view of one of the rail-bearing straps broken apart and the clamp end thereof and a connecting-rod broken away. Fig. 7 is a turnbuckle with the ends of two rods broken away, and Fig. 8 is an enlarged side view of the rail-bearing

and its seat with rail bolted thereon and a depression in the rail-bearing under the rail to drain off the water.

Similar letters refer to similar parts throughout the several views.

As shown in the drawings, A A represent metal bearings, preferably of steel, and B B represent the rails. The bearings are convex, as shown in Figs. 2 and 5, are each preferably thirty feet long and twenty-four inches in width and one-half an inch thick, can be manufactured to conform to any degree of curvature that may be desired, and are laid parallel with each other, as shown in Fig. 1. The bases of these convex rail-bearings are provided with flanges *a a*, each flange having a preferable width of about two inches. The bearings at their tops are provided with rail-seats A' A', cast or rolled as a part of the bearing. This seat has a shoulder E on its top at the outer side, and in the base of the inner side of this shoulder there is a groove *b*, adapted to receive the outside rail-flange.

As shown by dotted lines in Fig. 4, D is an orifice extended through seat A', the seat being made thick enough to admit said orifices and to afford a firm rail-seat. These orifices are adapted to receive bolts D' D'. These bolts have their inner ends or heads bent upward at a right angle and backward at an angle suited to clamp the inner rail-flange. The inner end of this orifice is open at the top, the seat being cut out to form a passage *h* for the head of the bolt, as shown in Fig. 5, this slot being for the purpose of allowing the bolt to slip in and out for adjustment to any width flangeway. The outer rail-flange being pushed into groove *b*, the bolt is readily inserted through its orifice D until the head clamps the inner rail-flange. A threaded nut *d* is then screwed on the end of the bolt, and it is thus held taut. The gage of the track being determined, the rail-bearings are laid upon the railroad-bed parallel with each other at the desired gage. Connection between the parallel rail-bearings is made by means of rods C C, straps C' C', and turnbuckles *c c*, these connections being made, usually, about five feet apart. As shown in Figs. 1 and 6, the outer flange of each bearing is clamped from beneath by straps C' C', the outer ends of said straps being similar in

form to that of shoulder E. The rods C C, bearing upward toward each other, are connected at a point half-way between the two parallel bearings by means of the turnbuckle 5 c, which may be held rigid by means of pins f f or any similar device, and the ends of the rods and the inside of the turnbuckle are threaded. The lower ends of said rods are bolted on the inner ends of straps C' C', while 10 the right-angle projections on the lower ends of rods C C serve as clamps to hold down the inner flanges of the rail-bearings. I construct strap C' and rod C separately to enable me to adjust them or take them out for re- 15 pair more easily than if constructed in one piece. A plate G, with bolts g g and perforations g' g', cast in convex form, adapting it to fit under the ends of the rail-bearings, serves for rigidly attaching the rail-bearings 20 end to end, the ends of the rail-bearings being provided with corresponding perforations. To provide against the contraction and expansion of the rail-bearings, these perforations are made somewhat elongated.

25 It will be seen that the rails can be set on and rigidly fastened to their seat-bearings either before or after connection is made between the parallel bearings and that worn or broken rails may at any time be replaced by 30 new ones without disturbing said connection.

The bearings and rails having been laid and rigidly connected in the manner described, the convex space beneath the rail-bearings may be filled solidly with earth. Preferably 35 I also fill the space between the parallel bearings with dirt or ballast, so that at the center it will fill to the bottom of the turnbuckle and at the bearing even with the bottom of the depressions F F, which depressions are 40 across the tops of the rail-bearings beneath the rails and are provided for carrying the water off the road-bed. Preferably I cast these depressions about eighteen inches apart, alternating with the bolts. These depres- 45 sions are preferably cast about six inches wide with a depth of about two inches under the rail with an incline to a depth of about three inches at the outside of the bearing to carry the water away from the track.

50 I do not limit myself to the exact construction described and shown herein, as changes may be made in the details without departing from the spirit and scope of the invention.

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

1. The combination with a railway-rail, of a convex metal bearing, a rail-seat cast or rolled at the apex of said bearing and pro-

vided with orifices and slots forming connec- 60 tion with the inner ends of said orifices at their tops, the rail-seat shoulder adapted to clamp the outer flange of the rail and the bolts adapted to operate in said orifices and 65 provided with nuts and threaded at their outer ends and having their inner ends bent to operate through the orifice-slots and clamp the inner rail-flange, the depressions in said bearings between the bolts to drain off water, 70 the straps adapted to clamp the outer flanges of the rail-bearings, the rods having their lower ends adapted to form connection with the inner ends of said straps and clamp over the inner rail-bearing flanges, the turnbuckles 75 to connect said rods and regulate the gage, and the plates provided with perforations to connect the rail-bearings, substantially as described and for the purpose specified.

2. The combination with two lines of convex railway-bearings set parallel, of metal 80 straps set transversely underneath said bearings the outer ends being turned backward to clamp the outer flanges of the bearings, of a turnbuckle, of the rods whose inner ends 85 make connection with said turnbuckle and whose outer ends are adapted to be rigidly fastened on the inner ends of said straps with extended upwardly-raised projections adapted to clamp over the inner flanges of the rail- 90 bearings, substantially as described and for the purpose specified.

3. In a railway two parallel lines of rail-bearings and the seats thereon adapted to seat and clamp two parallel rails of a track, the flanges at the bases of said bearings, the 95 turnbuckles, the metal straps set transversely underneath said bearings provided with turned ends to clamp the outer flanges of the bearings and the rods forming connection between said turnbuckles and straps and clamp- 100 ing down the inner flanges of the bearings, substantially as set forth.

4. The combination with convex railway-bearings adapted to be set parallel, of rail-seats set at the apex of said convexity and 105 provided with orifices, bolts and shoulders with grooves for retaining the rails upon their seats, and transverse depressions in said bearings placed alternately with said bolts to drain the water off the track, substantially 110 as described.

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

MANLEY I. GILBERT.

Witnesses:

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