

J. W. GIBSON.
RAILROAD BED.
APPLICATION FILED AUG. 18, 1911.

1,014,700.

Patented Jan. 16, 1912.

Fig. 1.

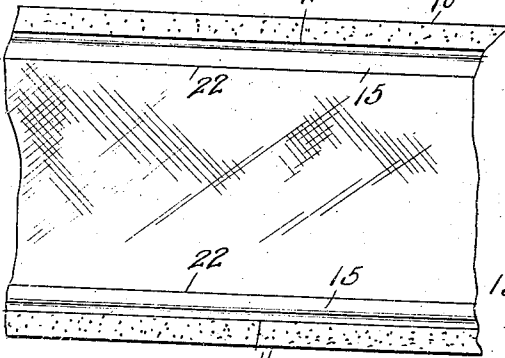
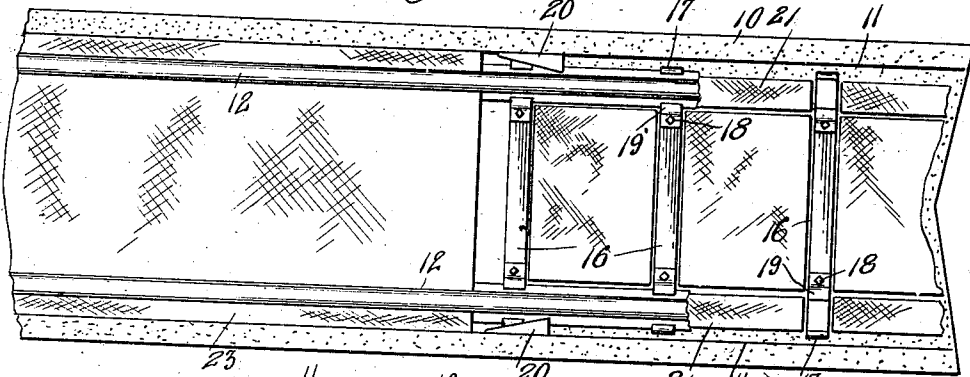


Fig. 3.

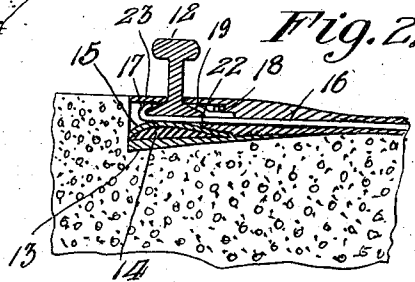


Fig. 2.

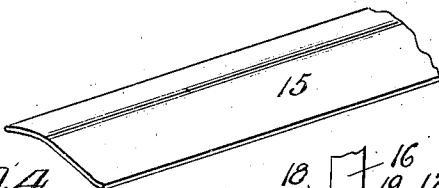


Fig. 4.

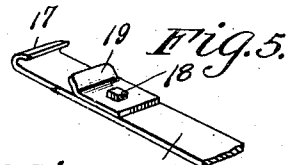


Fig. 5.



Fig. 6.

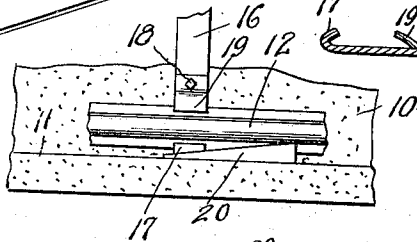


Fig. 7.

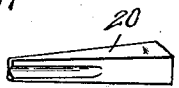


Fig. 8.

WITNESSES
G. M. Spring
R. E. Buckley

INVENTOR
John William Gibson
by Frank Appelman
Attorney

UNITED STATES PATENT OFFICE.

JOHN WILLIAM GIBSON, OF MUNCIE, INDIANA.

RAILROAD-BED.

1,014,700.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN WILLIAM GIBSON, a citizen of the United States of America, and resident of Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Railroad-Beds, of which the following is a specification.

This invention relates to railway tracks and particularly to a combined road bed and track cushion.

An object of this invention is to provide a support for track rails which will obviate the necessity of using ordinary or other forms of cross ties, the said invention having for its further object to provide means for yieldingly supporting the rails throughout their lengths, means being also provided for bracing and retaining the rails against spreading or tilting.

A still further object of this invention is to provide a roadbed which may be formed of comparatively inexpensive and accessible material, said roadbed being cushioned or covered with yielding material which shall absorb the vibration and shock incident to the travel of the rolling stock thereover, thus preventing disintegration of the roadbed and providing for easy travel when roadbeds and tracks embodying the invention are employed.

A still further object of this invention is to provide a railway track which will yieldingly support the rails thereof, means being also provided for holding the rails in certain relation to each other, the said rails and holding means being protected by the application of a coating to the upper surfaces thereof.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification, wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a top plan view of a fragment of a railway track broken away to show the same in different positions; Fig. 2 illustrates a transverse sectional view of a fragment of the track; Fig. 3 illustrates a top plan view of a fragment of a roadbed;

Fig. 4 illustrates a perspective view of a plate for supporting the rail; Fig. 5 illustrates a perspective view of a fragment of a rail tie; Fig. 6 illustrates a longitudinal sectional view thereof; Fig. 7 illustrates a plan view of a fragment of the rail, rail tie, roadbed and parts associated therewith; and Fig. 8 illustrates a perspective view of the plate.

In these drawings 10 denotes the roadbed which is preferably of concrete, cement, or other composition, the ingredients and proportions of which are immaterial and will not, therefore, be described in detail. In the construction of the roadbed, I prefer that the base concrete portion thereof having a convexed upper surface, the convexity of which extends transversely of the roadbed and that at the sides of said roadbed are formed longitudinally extending shoulders 11, preferably slightly inwardly beveled, the said shoulders being provided as abutments for the edges of the base flanges of the rails 12 or the spreaders or connections to be hereinafter described for connecting the said rails.

In providing the roadbed for supporting the rails 12, the upper surface of the said roadbed is first coated with layers 13 of rather hard asphalt of suitable thickness. Supported on the said asphalt layers 13 are cushions 14 of relatively softer asphalt than that forming the roadbed extending longitudinally of the roadbed and positioned under the rails 12, there being interposed between the cushions 14 and the rails 12 yielding plates 15 which are convexed on their upper surfaces and concaved on their lower surfaces, the concavity of the plates forming seats for the cushions 14. The relation of the edges of the plates and the cushions 14 is such that the edges of the plates 15 rest on the layers 13 of asphalt when weight is applied to the rails, that is to say when the rolling stock is passing thereover. The cushions 14 are of greater elasticity and are therefore softer than the layers 13 of asphalt, although said cushions have an asphalt base and may have such other material added to it, as will render the said asphalt capable of supporting the rails and predetermined weight, the said cushions being yieldable, however, when weight beyond a predetermined weight is supported by the rails. By reason of the relation of parts just mentioned, the cushions 14 will be brought into action when rolling stock is passing over the

rails, so that there will be such yielding action of the said rails as will absorb shock and vibration incident to the travel of said rolling stock over the rails.

5 The space between the edges of the plates 15 is provided preferably with a layer of asphalt of such thickness as will cause the asphalt to form shoulders 22 for the inner edges of the plates 15 and the inner edges
10 of the base flanges of the rails, the asphalt forming the shoulders 22 being of greater resiliency than the first mentioned layer so that the plates 15 will have the necessary movement when depressed by the weight of
15 the rolling stock passing over the rails.

The rails are connected by spreaders 16 having their ends formed into hooks 17 which embrace the edges of the base flanges of the rails whereas the said spreaders are
20 provided with apertures for the reception of the bolts 18 which hold the clamps 19 in engagement with the upper surfaces of the base flanges of the rails. By the use of the spreaders, therefore, the rails are held in
25 proper relation to each other and by reason of the use of the wedges 20 which may be interposed between the edges of the base flanges and the shoulders of the roadbed, the rails may be forced into alinement by
30 driving the said wedges in place. There is interposed between the spreaders a series of plates 21 on which the rails rest, the said plates 21 being interposed between the plates 15 and the rails. Plates 21 are preferably of a width equal to the width of
35 the material from which the spreaders are made so that those portions of the rails between the spreaders are supported on the same plane as are those portions of the rails
40 engaged by the spreaders.

After the parts have been assembled in the relation indicated, a filling 23 of asphalt or combination of asphalt and such other material as may be found desirable may be
45 applied to the shoulders 11, the outer surfaces of the said filling 23 being on an incline and extending from the webs of the rails and merging with the upper surfaces of the shoulders 11.

50 The space between the rail is provided with a layer of asphalt composition covering the spreader bars and extending over the clamps thereof flush with the inner surfaces of the webs of the rails, it being desirable that the top surface of the upper layer
55 of asphalt be concaved in order to form a trough-like structure in the center for the purpose of forming a drain between the rails. By reason of the formation of the
60 upper layer of asphalt composition, the spreader and the base flanges are protected and water which finds its way between the rails may be carried off without injury to the track.

65 It has been found that a railway roadbed

and track constructed in accordance with this invention will prove durable and comparatively inexpensive to produce and maintain.

I claim—

70 1. In a railway track, a roadbed having a transversely convexed surface terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the
75 rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between the plates and the first mentioned asphalt, tie rods connecting the rails and asphalt filling
80 between the edges of the two plates and between the edges of the base flanges of the rails on which the tie rods rest, and a filling between the two rails covering the said tie rods.

85 2. In a railway track, a roadbed having a transversely convexed surface terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the
90 rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between the plates and the first mentioned asphalt, tie rods connecting the rails and asphalt
95 filling between the edges of the two plates and between the edges of the base flanges of the rails on which the tie rods rest, a filling between the two rails covering the said tie rods, the said asphalt filling having its surface
100 concaved to form a trough between the two rails and longitudinally of the track.

105 3. In a railway track, a roadbed having a transversely convexed surface terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between
110 the plates and the first mentioned asphalt, tie rods connecting the rails, wedges interposed between the shoulders and the rails for adjusting the rails, asphalt filling between the edges of the two plates and between
115 the edges of the base flanges of the rails on which the tie rods rest, and an asphalt filling between the two rails covering the said tie rods.

120 4. In a railway track, a roadbed having a transversely convexed surface terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between the
125 plates and the first mentioned asphalt, tie rods connecting the rails, wedges interposed between the shoulders and the rails for ad- 130

justing the rails, asphalt filling between the edges of the two plates and between the edges of the base flanges of the rails on which the tie rods rest, an asphalt filling between the two rails covering the said tie rods, the said asphalt filling having its surface concaved to form a trough between the two rails and longitudinally of the track.

5: In a railway track, a roadbed having a transversely convexed surface terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between the plates and the first mentioned asphalt, tie rods connecting the rails, wedges interposed between the shoulders and the rails for adjusting the rails, asphalt filling between the edges of the two plates and between the edges of the base flanges of the rails on which the tie rods rest, and an asphalt filling between the two rails covering the said tie rods, the filling of asphalt engaging the outer surfaces of the wedges of the rails flush with the upper edge of the shoulders of the roadbed.

6: In a railway track, a roadbed having a transversely convexed surface terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between the plates and the first mentioned asphalt, tie rods connecting the rails, wedges interposed between the shoulders and the rails for adjusting the rails, asphalt filling between the edges of the two plates and between the edges of the base flanges of the rails on which the tie rods rest, an asphalt filling between the two rails covering the said tie rods, the said asphalt filling having its surface concaved to form a trough between the two rails and longitudinally of the

track, the filling of asphalt engaging the outer surfaces of the wedges of the rails flush with the upper edge of the shoulders of the roadbed.

7: In a railway track, a roadbed having transversely convexed surfaces terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between the plates and the first mentioned asphalt, tie rods connecting the rails, plates between the said rails and the said curved plate filling the spaces between the tie rods, an asphalt filling between the edges of the two plates and between the edges of the base flanges of the rails on which the tie rods rest, and an asphalt filling between the two rails covering the said tie rods.

8: In a railway track, a roadbed having transversely convexed surfaces terminating in shoulders extending longitudinally of the track, rails extending along the said shoulders, asphalt filling interposed between the rails and the roadbed, a metallic plate transversely curved between the said rails and the said asphalt, cushion asphalt between the plates and the first mentioned asphalt, tie rods connecting the rails, plates between the said rails and the said curved plate filling the spaces between the edges of the two plates and between the edges of the base flanges of the rails on which the tie rods rest, and an asphalt filling between the two rails covering the said tie rods, the filling of asphalt engaging the outer surfaces of the wedges of the rails flush with the upper edges of the shoulders of the roadbed.

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

JOHN WILLIAM GIBSON.

Witnesses:

LOTTIE E. BARKLEY,
L. R. ALBERT.