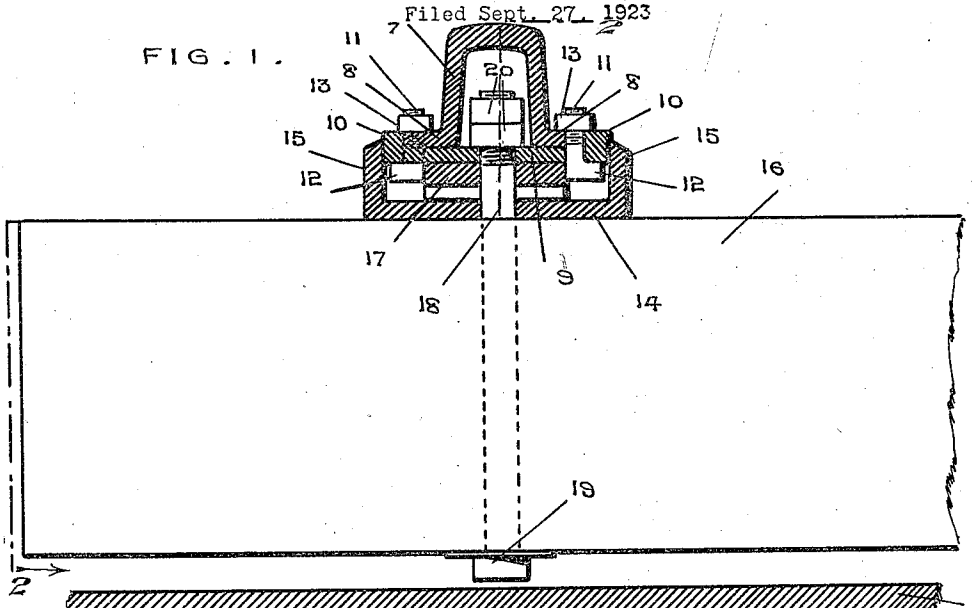
Sept. 16, 1924. 1,508,992

E. C. SHAVER

RAILROAD RAIL

Filed Sept. 27, 1923

FIG. 1.



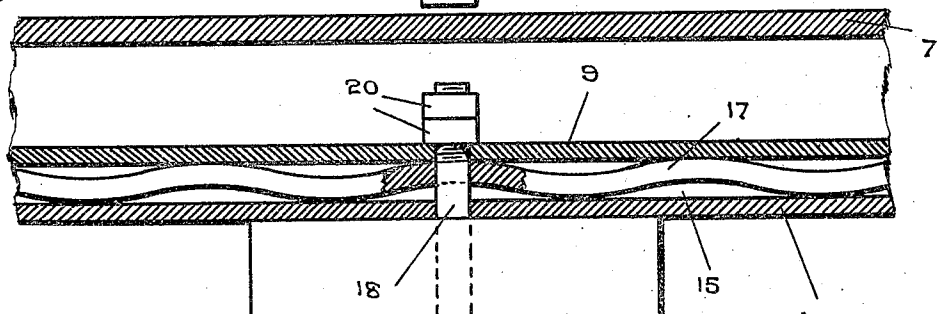


FIG. 2.

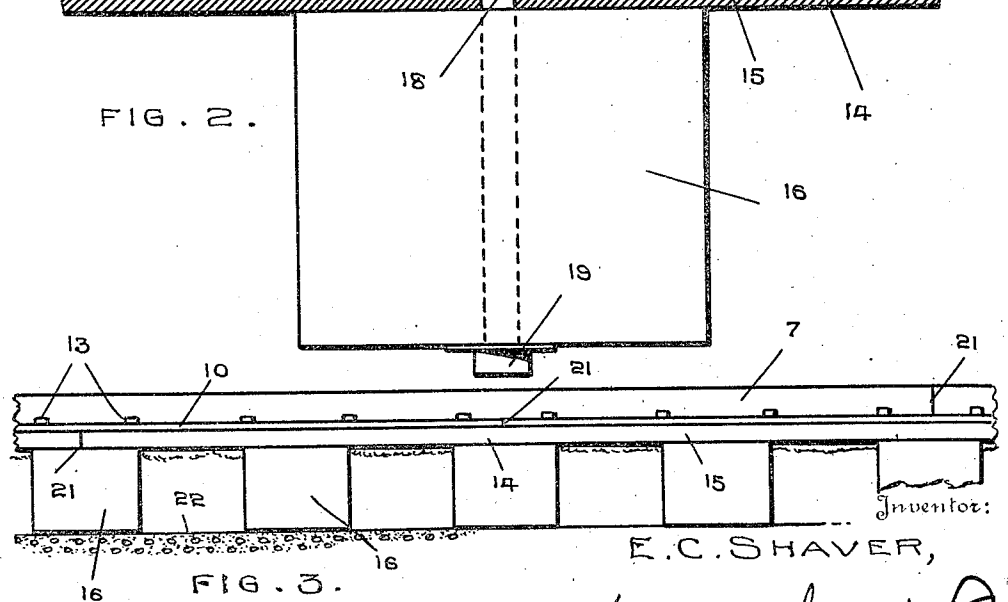


FIG. 3.

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UNITED STATES PATENT OFFICE.

ELMER C. SHAVER, OF NEW YORK, N. Y.

RAILROAD RAIL.

Application filed September 27, 1923. Serial No. 665,113.

To all whom it may concern:

Be it known that I, ELMER C. SHAVER, a citizen of the United States, residing at New York city, in the county of Bronx and State of New York, have invented certain new and useful Improvements in Railroad Rails; 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.

The present invention relates to railroad tracks, and the primary object of the invention is the provision of a novel and improved rail having vertical resiliency or cushioning action whereby the track can be mounted on a concrete or other substantial permanent roadbed or foundation.

Another object of the invention is the provision of a rail composed of superposed sections having cushioning means between them, to permit the top or tread section to yield under the weight of the locomotive and cars passing over the track.

Another object is to provide such a rail comprising a novel assemblage and construction of the component elements to provide a practical and efficient construction.

A further object is the provision of such a rail which is practically continuous and jointless.

A still further object is to provide such a rail wherein the top or tread section can be readily removed for replacement when worn out.

With the foregoing and other objects in view, which will be apparent as the description proceeds, the invention resides in the construction and arrangement of parts as hereinafter described and claimed, it being understood that changes can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a cross section of the rail, showing a portion of a tie in elevation.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is an elevation of a portion of the rail, on a reduced scale, showing how the ends of the several sections of the rail are offset to render the rail practically continuous and jointless.

The rail has the top or tread section 7 which is of inverted U-shaped cross-section, and said section 7 has the outstanding horizontal flanges 8 at its lower edges to seat on the intermediate section or plate 9. Said section or plate 9 has the upturned flanges 10 at its edges, against which the edges of the flanges 8 abut, and the section 7 is secured on the section or plate 9 by means of bolts 11 extending through apertures in the plate 9 and through notches or apertures in the flanges 8. Said bolts have heads 12 at their lower ends seating upwardly against the plate 9 and preferably extending outwardly toward the edges of said plate, and nuts 13 are threaded on the upper terminals of the bolts and seat on the flanges 8 and 10, to clamp the flanges 8 on the plate 9.

The rail also includes a base section or plate 14, which is of channel shape, being provided with the upstanding flanges 15 at its edges. The section or plate 9 is disposed within the base section for vertical motion, the edges of the plate 9 abutting the flanges 15, thereby preventing transverse displacement of the tread section 7 and plate 9 relatively to the base section 14, the tread section being secured on the plate 9 so as to prevent said tread section from being displaced transversely. The plate 9 is spaced above the bottom of the section 14, to provide for the yielding movement of the tread section 7 and plate 9.

A resilient cushion strip or bar 17 of sinuous formation is disposed between the plate 9 and section 14, with its edges spaced from the flanges 15 and the edges of the plate 9, and supports the plate 9 and tread section 7. Said cushion strip 17 enables the tread section 7 and plate 9 to be depressed under the weight of the locomotive and cars passing over the rail, to provide for an effective cushioning action, which is desirable. The heads 12 of the clamping bolts 11 are disposed beyond the edges of the cushion strip 17.

The base section 14 of the rail extends across and seats on the cross ties 16, which may be of wood or other suitable material, and the rail is secured on and anchored to the ties by means of vertical anchor bolts 18 that extend through apertures in the ties, base sections 14, cushion strips 17 and plates 9. Said bolts 18 have heads 19 under the

ties, and nuts 20 are threaded on the upper terminals of the bolts and seat on the plates 9, thereby limiting the upward movement of the plates 9 and tread section 7, and anchoring the rail to the ties so that the rail cannot be displaced longitudinally or transversely, as well as holding the rail down on the ties. The nuts 20 are located within the tread section 7 and are also prevented from turning by contact with the side walls of said tread section.

As seen in Fig. 3, the ends 21 of the sections of the rail are offset longitudinally, so that each break in one section is bridged by the other sections, and the rail is practically continuous and jointless, there being no definite joints, and fish plates or other joints being eliminated.

With the present construction, the tread section 7 can be of a material to resist the wear of the wheels, and the sections 9 and 14 can be of suitable material found best for the purposes.

In using the present rail construction, the ties 7 can be mounted on a concrete or other permanent roadbed or foundation 22, thereby making the track more of a permanent nature, the cushioning action of the rails being sufficient to allow for the desired yielding motion of the track as trains pass over. Also, when the tread sections become worn down, it is an easy matter to remove them so as to be replaced by new ones, it only being necessary to remove the nuts 13 so that the tread sections can be lifted off. The tread sections can thus be detached without disturbing the remainder of the track. The rails and ties being capable of being mounted on a concrete or other permanent bed or foundation will render the track of a more permanent nature than the ordinary track, and only the tread sections or portions of the rails will require replacement. The ties can also be replaced more easily on a concrete or similar permanent bed as compared with laying the ties on a dirt, stone or gravel bed. The rail will also be strong and substantial in construction, the tread section of the rail having opposite side walls or webs.

Having thus described the invention, what is claimed as new is:—

1. A rail comprising a base section, an intermediate section mounted yieldingly above the base section, and a tread section secured detachably on the intermediate section.

2. A rail comprising a base section, an intermediate section, cushioning means between said sections, and a tread section secured detachably on the intermediate section.

3. A rail comprising base and tread sections and cushioning means between them composed of a sinuous resilient strip.

4. A rail comprising a base section, an intermediate section spaced above the base section, a sinuous resilient strip between said sections and yieldingly supporting the intermediate section, and a tread section secured detachably on the intermediate section.

5. A rail comprising base and intermediate sections fitted together slidably for the vertical motion of the intermediate section, cushioning means between said sections, and a tread section secured detachably on the intermediate section.

6. A rail comprising a channel-shaped base section, an intermediate section fitted between the flanges of the base section for vertical motion, cushioning means between said sections, and a tread section secured detachably on the intermediate section.

7. A rail comprising a base section, a plate fitted therein for vertical motion, cushioning means between said base section and plate, and a tread section of inverted U-shaped section having its edge portions secured on the plate.

8. A rail comprising a base section, a plate fitted therein for vertical motion, cushioning means between said base section and plate, and a tread section of inverted U-shaped cross section having outturned flanges with its edges secured on the plate.

9. A rail comprising a base section, a plate having upturned flanges, said plate being fitted for vertical motion in said base section, cushioning means between said base section and plate, and a tread section of inverted U-shaped section having outturned flanges at its edges secured on said plate and abutting said flanges.

10. A rail comprising a channel-shaped base section, a plate fitted for vertical movement in said base section and having upturned flanges at its edges, cushioning means between said plate and section, and a tread section of inverted U-shaped section having outturned flanges at its edges detachably secured on said plate and abutting said flanges.

11. A rail comprising a tread section of inverted U-shaped section, a plate over which said tread section is disposed, means for securing said tread section on said plate, and anchoring means for fastening said plate on cross ties, said anchoring means extending upwardly through said plate and having upper portions above said plate within said tread section between the opposite sides thereof.

12. A rail including a base section, a tread section mounted thereon and being of inverted U-shaped section, and anchoring means extending through said base section and having the upper portion thereof disposed within said tread section.

13. A rail comprising a base section, a tread section of inverted U-shaped section mounted over the base section, and an

anchor bolt extending through the base section and having the upper portion thereof located within the tread section.

14. A rail comprising a base section, an intermediate section thereover, cushioning means between said sections, a tread section of inverted U-shaped cross section secured detachably on the intermediate section, and anchoring means extending through said base and intermediate sections with the upper portion thereof located within the tread portion.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELMER C. SHAVER.

Witnesses:
STEPHEN L. MERSHON,
ALFRED KOEHLER.