J. S. BEAN.

COMBINATION RAIL, RAIL FASTENER, AND JOINT.

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1,174,540. Patented Mar. 7, 1916.

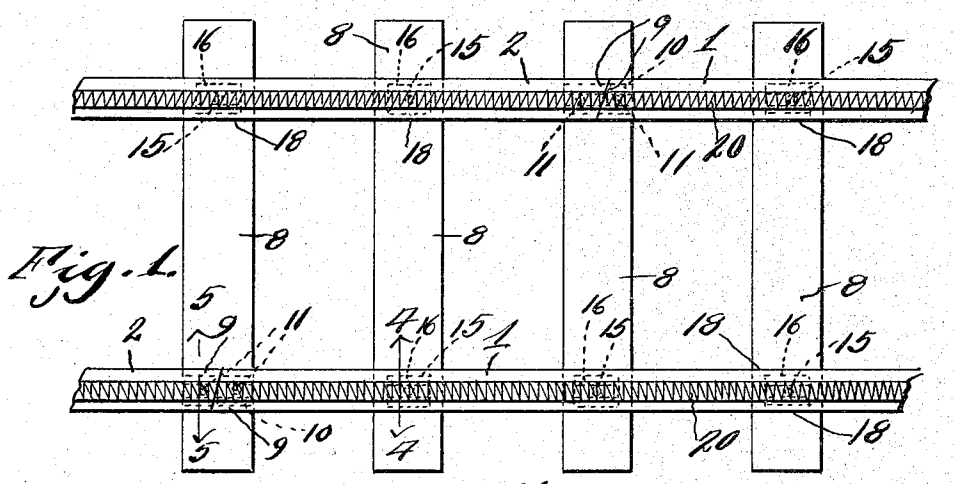


Fig. 1.

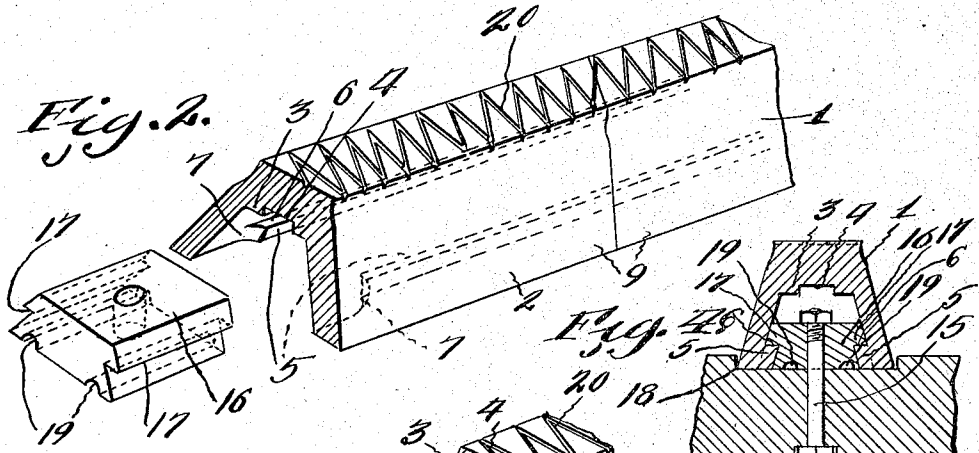


Fig. 2.

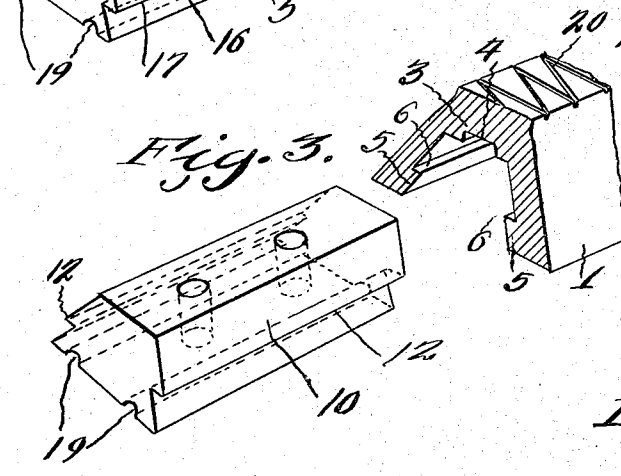


Fig. 3.

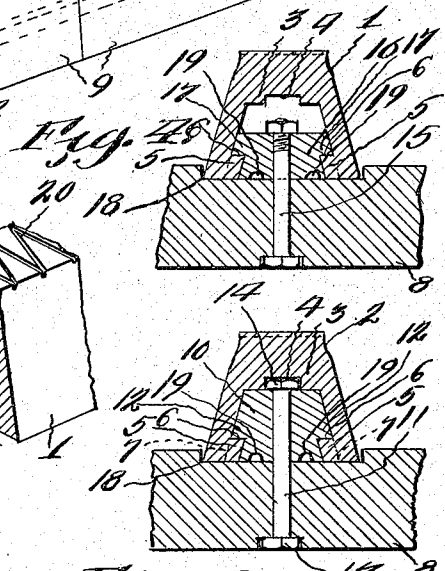


Fig. 4.

Fig. 5.

Witnesses

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COMBINATION RAIL, RAIL-FASTENER, AND JOINT.

1,174,540. Specification of Letters Patent. Patented Mar. 7, 1916.

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To all whom it may concern:

Be it known that I, JOSEPH S. BEAN, a citizen of the United States, residing at Sharon, in the county of Windsor, State of Vermont, have invented a new and useful Combination Rail, Rail-Fastener, and Joint; 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 to an improved rail, rail fastener, and rail joint combined, and an object of the invention is to provide a device of this nature which eliminates any visible means of fastening the rails to the ties.

Another object of the invention is to provide trough-shaped rails, in combination with fastening members or blocks (which are bolted to the ties) with which said trough-shaped rails have sliding or dovetailed connections, to secure the rails in position.

Another object of the invention is the provision of a trough-shaped rail, which constitutes a protector for the bolt fasteners against the weather and the like.

Another object of the invention is to provide means whereby the hollow rails may slide into connection with the blocks or members, without causing the blocks or members to pass through the entire length of said rails.

Another object of the invention is to provide the rails with serrated tread surfaces, to insure friction between and preventing slipping of the wheels on said surfaces.

Another object of the invention is to provide means on the interior of the hollow rail to receive the nuts of the bolt fasteners, to prevent the nuts from turning.

Another object of the invention is to provide grooves in the bottoms of the blocks or members, to permit wires or the like to be installed, so as to be protected by the rail.

In practical fields the details of construction may necessitate alterations, falling within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings: Figure 1 is a plan view of a track, showing the application of the improved rail, rail joint, and rail fastener. Fig. 2 is a perspective view of one of the rail sections, and one of the members or blocks for securing the rail section to the tie. Fig. 3 is a perspective view of a portion of a rail section, showing a block or member, which occurs at a joint of the rail sections, to be received by the rail section. Fig. 4 is a transverse sectional view on line 4—4 of Fig. 1. Fig. 5 is a transverse sectional view on line 5—5 of Fig. 1.

Referring more especially to the drawings, 1 and 2 designate the rail sections (which are inverted trough-shaped or hollow throughout their lengths) forming the track. The upper interior wall 3 of the hollow of each rail section is provided with a longitudinal groove 4, the purpose of which will appear later. The direct opposite walls of the hollow of each rail section are provided with ribs 5 forming the shoulders 6 extending longitudinally of the rail sections. These ribs are interrupted owing to the provision of the recesses or cutaway portion 7, which occur at different points throughout the length of each rail section. For instance, the cutway portions or recesses occur adjacent where the rails are to be secured to the ties 8. The adjoining or adjacent ends 9 of the rail sections are beveled, as shown in Fig. 1, so that as the car wheels pass over the joint of the rail sections, the tread of the car wheels will practically contact with the treads of both rail sections, at the same time, where said joint occurs.

Just where the joint of the adjacent end of each two rails occurs a block or member 10 is bolted to the tie by means of the bolts 11. Each block or member 10 is of a shape in cross section to correspond to and fit the hollow of a rail section, and is provided with shoulders 12 to engage the shoulders 6 formed by the ribs 5 on the interior opposite walls of the rail section, thereby holding the rail sections in place. The bolts 11 extend upwardly through the tie having their heads 13 countersunken in the under face of the tie, and their nuts 14 are received by the channel 4 of the upper interior wall of the rail section, thereby preventing the nuts from unscrewing. Bolted to the ties between the opposite ends of each rail section by the bolts 15 (which extend upwardly through the ties, with their heads countersunken in the under faces of the ties) are

blocks or members 16, which are provided with shoulders 17, to engage the shoulders 6 formed by the ribs 5 of each rail section. It will be noted that the blocks or members 16 are shorter than the blocks or members 10. Furthermore, each block or member 16 is secured to its respective tie by a single bolt, and by virtue of the interengaging shoulders 6 and 17, the rail section is held securely in place. It is to be observed that the cutaway portions or recesses 7 constitute means to permit the blocks or members 16 to enter the hollow of each rail section, and after entering the hollow of each rail section through said cutaway portions or recesses 7, a slight longitudinal movement may be imparted to the rail section, so as to cause the shoulders 6 and 17 to interengage, and at the same time arranging the rail section, so that the recesses or cutaway portions 7 are out of register with the blocks or members 16.

The ties 8 are recessed transversely as shown at 18, for the reception of the blocks or members 16 and 10 and the rail sections. The under faces of the blocks or members 10 and 16 are provided with longitudinal grooves 19 for the reception of wires, such as telephone or telegraph wires or the like, or for the reception of cables, or wires of a block signal system, for guarding or protecting such wires or the like from the atmosphere. By virtue of the trough-shaped rail sections, it is to be noted that the bolts 11 and 15 are also protected from the weather. Moreover, from the foregoing structure it is to be noted that the rail sections are secured to the ties, without any visible securing means. The treads of the rail sections are provided with serrations 20, so that the car wheels will be insured of sufficient friction to prevent their slipping. It is to be noted that one or the other of the rail sections may be moved in one direction or the other, to bring the cutaway portions or recesses 17 in registration with the blocks or members 10 or 16, thereby permitting the rail sections to be easily removed.

The invention having been set forth, what is claimed as new and useful is:—

1. In combination, a block or member having means to secure the same to the tie, a rail section being trough-shaped in cross section arching over and receiving said block, and coöperating engaging means between the block and the interior of the trough-shaped rail section, and means to permit the block to enter the trough-shaped rail section, so that by a longitudinal movement of the rail section said coöperating engaging means will coöperate.

2. In combination, a block or member having means to secure the same to the tie, a rail section being trough-shaped in cross section arching over and receiving said block, and coöperating engaging shoulder connections between the block and the interior of the trough-shaped rail section to secure the section to the block, the engaging shoulder connections of the rail section being recessed or cut-away to permit the block to enter the trough-shaped rail section, so that by a subsequent longitudinal movement of the rail sections said shoulder connections may coöperate to secure the rail section in place.

3. In combination, a block or member having means to secure the same to the tie, a rail section being trough-shaped in cross section arching over and receiving said block, and coöperating engaging shoulder connections between the block and the interior of the trough-shaped rail section to secure the section to the block, said means for securing the block in place consisting of bolts having nuts upon their upper ends, the upper interior wall of the trough-shaped rail section having a channel to receive the nuts of said bolts.

4. In combination, a block or member having means to secure the same to the tie, a rail section being trough-shaped in cross section arching over and receiving said block, and coöperating engaging shoulder connections between the block and the interior of the trough-shaped rail section to secure the section to the block, the engaging shoulder connections of the rail section being recessed or cut-away to permit the block to enter the trough-shaped rail section, so that by a subsequent longitudinal movement of the rail sections said shoulder connections may coöperate to secure the rail section in place, said means for securing the block in place consisting of bolts having nuts upon their upper ends, the upper interior wall of the trough-shaped rail section having a channel to receive said nuts of said bolts, the under face of the block having longitudinal grooves for the reception of wire installation.

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

JOSEPH S. BEAN.

Witnesses:
M. G. DROUS,
A. H. BADGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."