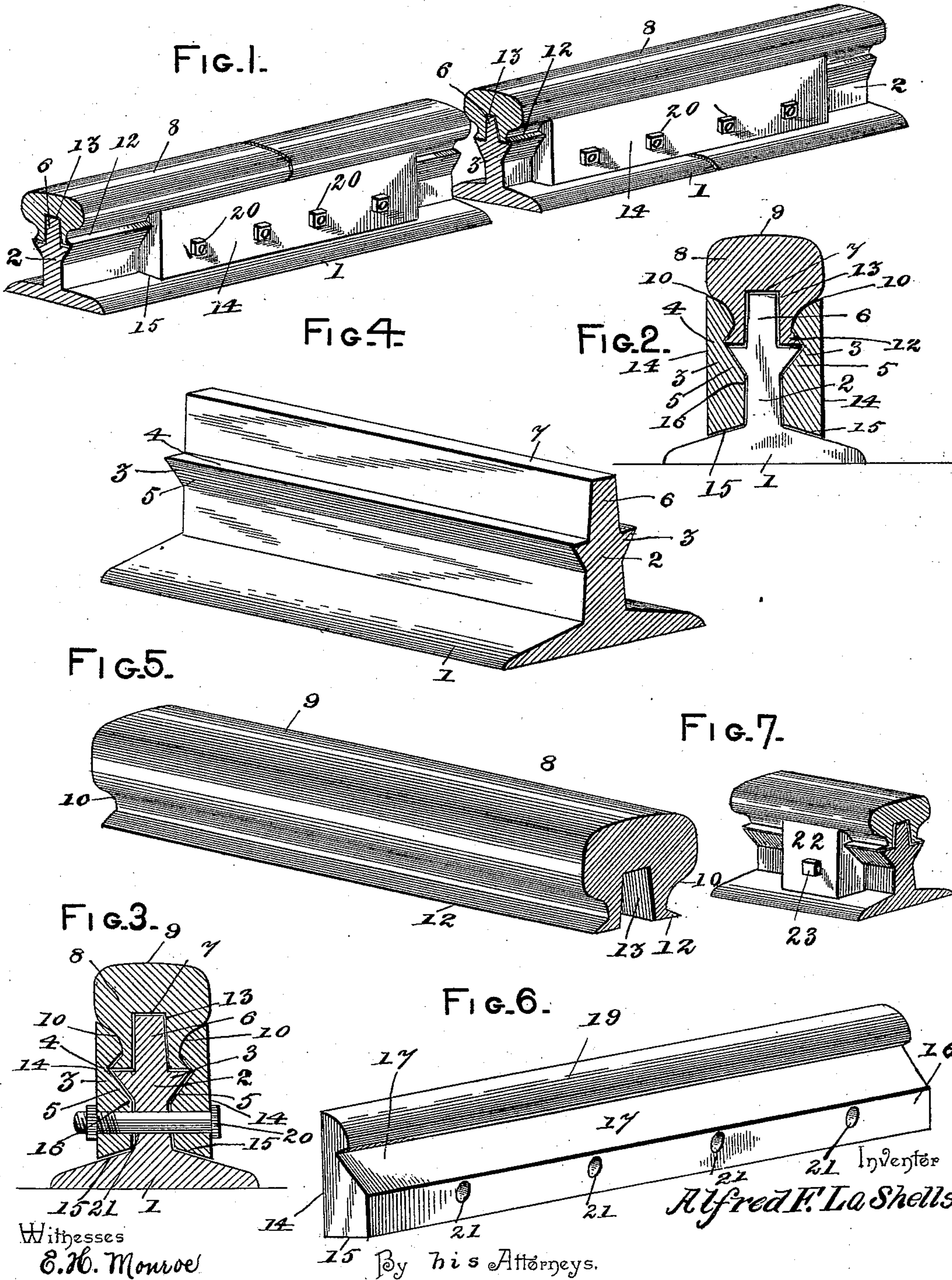


(No Model.)

A. F. LA SHELLS.  
RAILWAY RAIL.

No. 528,950.

Patented Nov. 13, 1894.



Witnesses  
E. H. Monroe

*E. H. Monroe*

By his Attorneys.

*Alfred F. La Shells.*



# UNITED STATES PATENT OFFICE.

ALFRED FRANKLIN LA SHELLS, OF BIGGS, CALIFORNIA.

## RAILWAY-RAIL.

SPECIFICATION forming part of Letters Patent No. 528,950, dated November 13, 1894.

Application filed August 4, 1894. Serial No. 519,479. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED FRANKLIN LA SHELLS, a citizen of the United States, residing at Biggs, in the county of Butts and State of California, have invented a new and useful Railway-Rail, of which the following is a specification.

This invention relates to an improvement in the construction of railway rails, and in the means for joining the contiguous ends of the same.

The invention contemplates several objects; one of which is to provide a rail in which the free or tread may be removed, when worn or objectionable for other reasons, and replaced by a new tread or face.

A further object is to provide a rail which will be capable of more effective joining, and one which, when joined, will not allow the sagging or spring movement at the joints as is common in other rail joints.

Various minor objects are contemplated, and the full attainment of all the objects, will be apparent from the following specification.

In the accompanying drawings, Figure 1 represents a perspective view of my rail, showing it broken away, to the end that both joints of the two sections may be illustrated. Fig. 2, a cross-section, taken through the rail at one of the joints; Fig. 3, a cross-section, taken through the rail at points other than the joints; Fig. 4, a detail perspective of the base portion of the rail; Fig. 5, a detail perspective of the face or tread; Fig. 6, a similar view of one of the fish-plates used in joining the ends of my rails; Fig. 7, a reduced view of a modification.

The reference numeral 1 indicates the base of the rail, which is adapted to rest upon the ties, as usual, and which has formed integral therewith the vertical center portion 2. This center portion is formed on each side with the longitudinal ribs 3, horizontally aligned with each other, and having the truly-horizontal upper face 4, and downwardly and inwardly inclined lower face 5. These ribs, 3, extend throughout the length of the center portion 2, and consequently throughout the length of the rail. Formed integral with the center portion 2, and just above the ribs 3, is the tongue 6, which tapers slightly from its

lower to its upper end, and which is formed with a square upper end 7. These parts, those just described, comprise the base portion of the rail.

8 indicates the face or tread section, which is formed with the upper face 9, upon which the tread of the car-wheels is adapted to pass. From the face 9 the sides of the section slant downwardly and inwardly to form the curved portions 10, which terminate at their lower sides in the horizontally-extending ribs 12. The ribs 12 are one for each of the curved portions 10, and are formed triangularly or with a diagonally extending face on each of their outer sides which meet with a plane lower side at each rib.

The ribs 12 are two in number, one for each side of the section 8, and are arranged at the lower edge thereof. Formed in the tread-section 8, and communicating with the under side thereof, is the longitudinal groove 13, which extends upwardly into the section for a little more than one-half the vertical thickness thereof, and is of a shape which will permit it to receive and to snugly hold the tongue 6 of the base-section. Thus it will be seen that the two sections of the rail, when assembled, will form a practically continuous rail, and that the fact of its being in two sections will not detract from its durability or efficiency. On the other hand, owing to this attribute, the rail is made much stronger and more durable; and by removing the tread or face section 8, a new section may be placed thereon, thereby making the rail as strong and durable as when first used. The ribs 3 and 12 of each side of the rail are so related to each other that they will meet at their respective outer edges and form a continuous rib tapering to an edge on its outer side.

The fish-plates consist of metallic plates having the approximately vertical outer faces 14, and the slightly beveled lower edges 15. The edges 15 have their bevel disposed upwardly from their outer sides, so that they will lie snugly against the upper side of the base 1 of the rail. Formed on the inner side of the fish-plates are the upwardly and outwardly extending portions 16, which match with the inclined sides 5 of the ribs 3, and which have directly above them the upwardly



and inwardly extending portion 17, adapted to correspond with the similarly-disposed outer edges of the respective ribs 12. Thus it will be seen that the fish-plates, when arranged in place, will lie snugly against the side of the base-section 1, so that no rattling or clattering will attend the passage of a car over the rails. Further, owing to the form of the ribs 3 and 12, and to the operation of faces 16 and 17, thereon, the tread-section will be clamped down upon the base, thus drawing the two parts closer together and insuring the joint. The remaining portion of the fish-plate, above the face 17, is formed with the outwardly and upwardly curved portion 19. This portion, 19, extends into the outer face 14 of the plate, and is adapted to register and to fit snugly within the curved portion 10 of the tread-section.

In assembling the several parts of my rail, the base-sections are first arranged in alignment, and with their contiguous ends properly related to each other, after which the tread-sections are placed upon the base-sections so that the ends of the former will be located midway the ends of the base-sections, and vice versa. The fish-plates should next be arranged one on either side of the rail, and directly adjacent to the joints of its sections. Thus, as is best shown in Fig. 1, the meeting ends of the base-sections are each provided with two fish-plates; while the meeting ends of the tread-sections are provided with similar devices.

20 indicates a series of bolts which pass through the openings 21 in the fish-plates and serve to hold the parts in rigid adjustment. These bolts may be of any reasonable number, preferably four, and arranged two on each side of the joint. It will be seen that after the fish-plates have been secured over the joints of the several sections of the rails, the rail will be practically continuous, and it will be quite impossible for it to sag or spring as the train passes over it.

The modification of Fig. 7 consists in a device for insuring the rigid connection of the two sections of the rail, and while it is not deemed necessary for ordinary use, it may be found useful under some circumstances. It consists of a short section 22 of the fish-plates, held in place by the bolt 23, passing through them and through the vertical portion 2 of the main section of the rail. The plates 22 are formed on their inner sides exactly similar to the larger fish-plates, and by their means the two sections of the rail are held immovable. These devices may be placed at various intervals throughout the rail and between the joints of the sections thereof.

Having described the invention, I claim—

In a railway rail, a base-section having a vertical portion provided on each side with a horizontal and longitudinal rib and with a longitudinal tongue arranged above and between the ribs, a tread or face section having on its under side a groove adapted to receive the tongue of the base-section and at its lower sides, respectively, two outwardly-projecting ribs, said ribs having a downwardly and outwardly sloping face adapted to coincide with the edges of the ribs on the base-section, two fish-plates adapted to be arranged one on each side of the rail and adjacent to the contiguous ends of one of the sections, said plates having each formed on their inner sides a longitudinal groove, and adapted respectively to receive the two ribs of the rail and to snugly hold the same, and bolts passing horizontally from one fish-plate to the other, and through the vertical portion of the base-section, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALFRED FRANKLIN LA SHELLS.

Witnesses:

O. C. HAWKINS,  
C. E. CHATFIELD.