

(No Model.)

E. G. PATTERSON.
RAILROAD RAIL.

No. 458,748.

Patented Sept. 1, 1891.

Fig. 1.

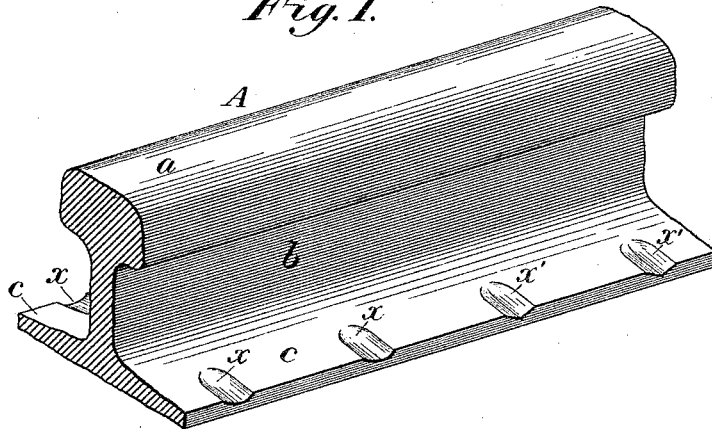


Fig. 2.

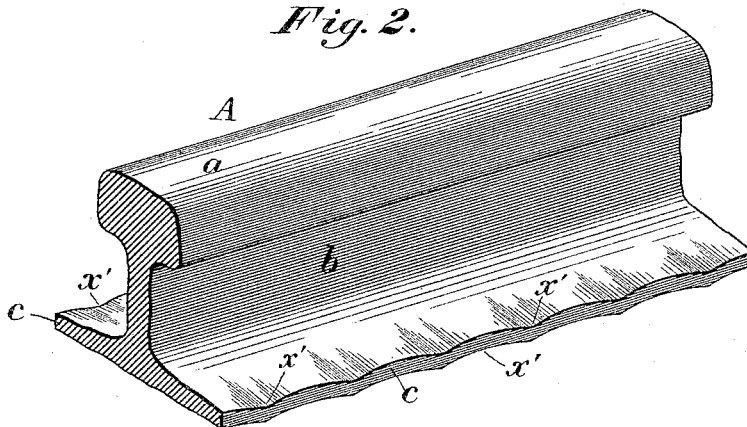
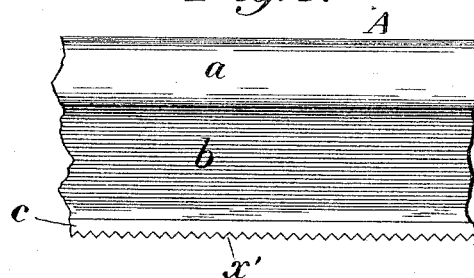


Fig. 3.



WITNESSES

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ELISHA G. PATTERSON, OF TITUSVILLE, PENNSYLVANIA.

RAILROAD-RAIL.

SPECIFICATION forming part of Letters Patent No. 458,748, dated September 1, 1891.

Application filed February 17, 1890. Serial No. 340,679. (No model.)

To all whom it may concern:

Be it known that I, ELISHA G. PATTERSON, of Titusville, in the county of Crawford and State of Pennsylvania, have invented a new and useful Improvement in Railroad-Rails, of which the following is a full, clear, and exact description.

My improvement consists in a novel construction of the flanges of railroad-rails, designed for the purpose of preventing what is known as the "creeping" of the rail, or its longitudinal movement in either direction along the road-bed. This is one of the most serious difficulties attending the use of the rails on the road-bed, as it often amounts to a very considerable movement, sometimes as much as several feet within the distance of a few miles. This difficulty has been partially overcome by boring or punching notches in the flanges of the rails for the insertion of spikes, which are driven through the flange of the rail into the sleepers or ties of the road-bed, or by spiking the joint-supporting device of the rails to the joint-ties. These remedies are, however, attended with very serious practical objections, as the notching or punching of the rails, especially when made of steel, gives them a tendency to crack and break, while the remedy last named throws the strain, caused by the tendency of the rail to creep, upon the joint-ties, which results in their distortion and displacement, thus seriously weakening the track at the point where it is least able to bear any excessive strain. It is obvious, therefore, that a very important end is attained if the rail can be so constructed, without weakening it, as to bear being securely fastened to the road-bed without endangering the rail itself.

My improvement consists in corrugating the flanges of the rails, either on the upper or under surface, or both, so that the head of the spike or other fastening device may enter the depression thus formed and hold the rail from moving longitudinally; or if the corrugations are made on the under surface of the rail or on both the under and upper surfaces of the flange the projections shall be forced to enter the surface of the wooden ties and embed themselves therein, thus adding greatly to the immobility of the rail.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective representation of a portion of a railroad-rail in which the corrugations are made on the upper surface of the flange. Fig. 2 is a similar representation, the corrugations being made on both the upper and under side of the rail. Fig. 3 is a side view of the rail having the corrugations on the under side only.

In the several figures like letters denote similar parts.

In the drawings, A is a railroad-rail of the T-head style, having a head *a*, web *b*, and flanges *c c*.

In Fig. 1 the upper surface of either or both of the flanges *c* is corrugated by the formation of depressions *x x*, which are preferably made of such size as to receive the under side of the head of a railroad-spike or other fastening device, and the shape of the depression forming the corrugation may be curved, like *x x*, or V-shaped, as *x' x'*. In either case the under side of the head of the spike may be made of a shape the counterpart of that of the corrugation; or the corrugations may, if preferred, be made of such shape as to correspond with that of the under side of the head of an ordinary railroad-spike.

In Fig. 2 the corrugations *x' x'* are made on both the upper and under surface of the flange, which enables the corrugations to be more easily formed by rolling, as the excess of metal caused by forming the corrugations is compensated for by the shape of the flange.

In Fig. 3 the corrugations *x' x'* are made in the under surface of the flange and are of substantially V shape, forming serrations extending preferably across the entire under surface of the rail. When so made, they readily embed themselves in the surface of the wooden ties, and the rails are easily prevented from creeping by this means and by the use of an ordinary spike driven into the tie with its flat head bearing down on the smooth surface of the flange.

I wish it to be understood that the corrugations on or in the flanges of the rail may be repeated, either continuously or at intervals, along the rail, and that it is not necessary that the corrugations should be at right an-

gles to the length of the rail, as they may be somewhat inclined if, for any reason, preferred.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A railroad-rail having T-head and flanged base and having corrugations or depressions in the surface of the flanges substantially at right angles to the length of the rail for the reception of the under sides of the heads of the spikes or other device by which the rail is secured to the ties or railroad-bed, substantially as described.

2. A railroad-rail having corrugated flanges,

the corrugations being on both the upper and under surfaces of the flanges, substantially as and for the purposes described.

3. A railroad-rail having V-shaped or serrated corrugations on its under surface for the purpose of taking into the surface of the wooden railroad-ties, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 5th day of February, A. D. 1890.

ELISHA G. PATTERSON.

Witnesses:

W. BAKEWELL.

W. B. CORWIN.