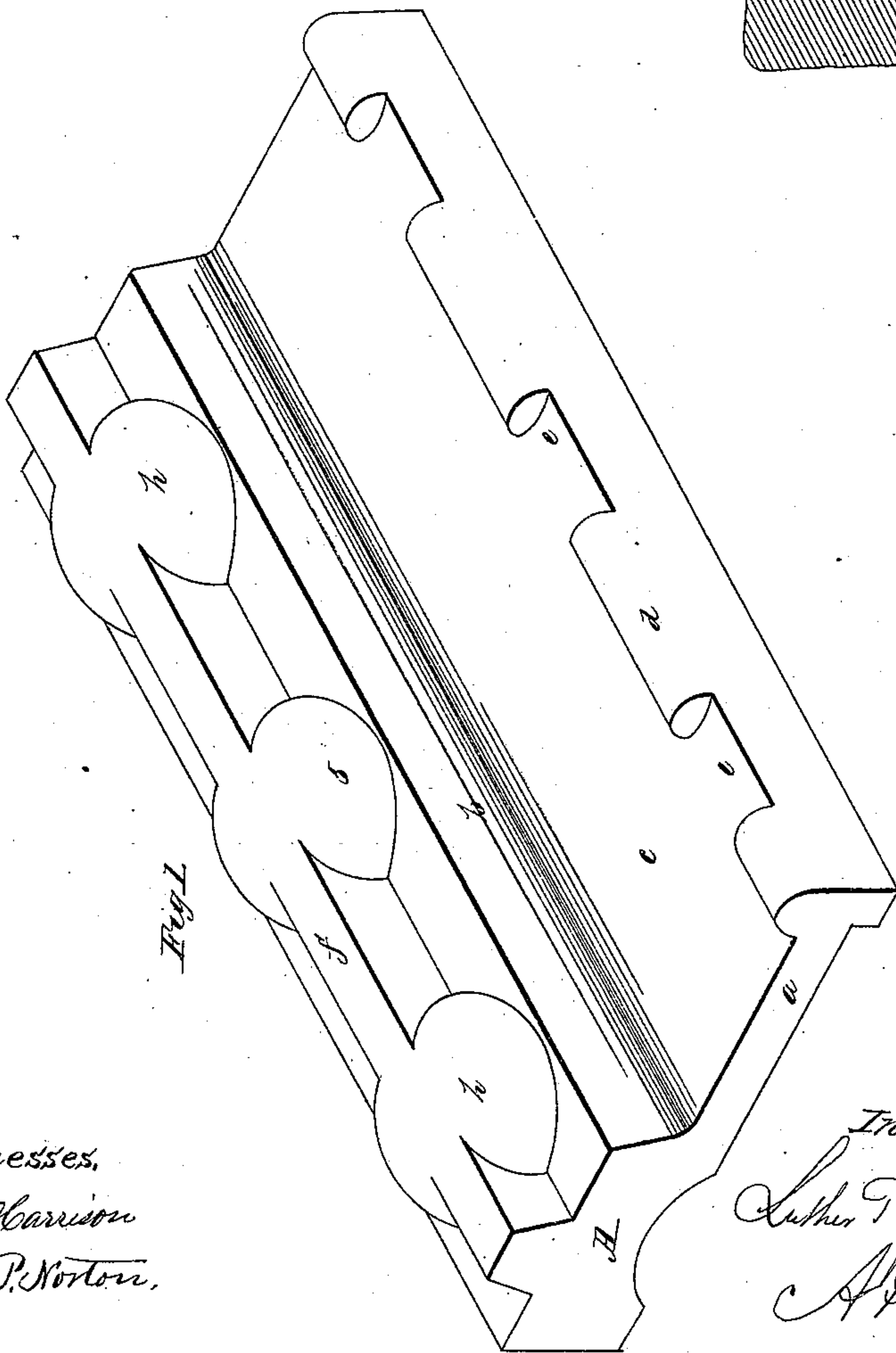
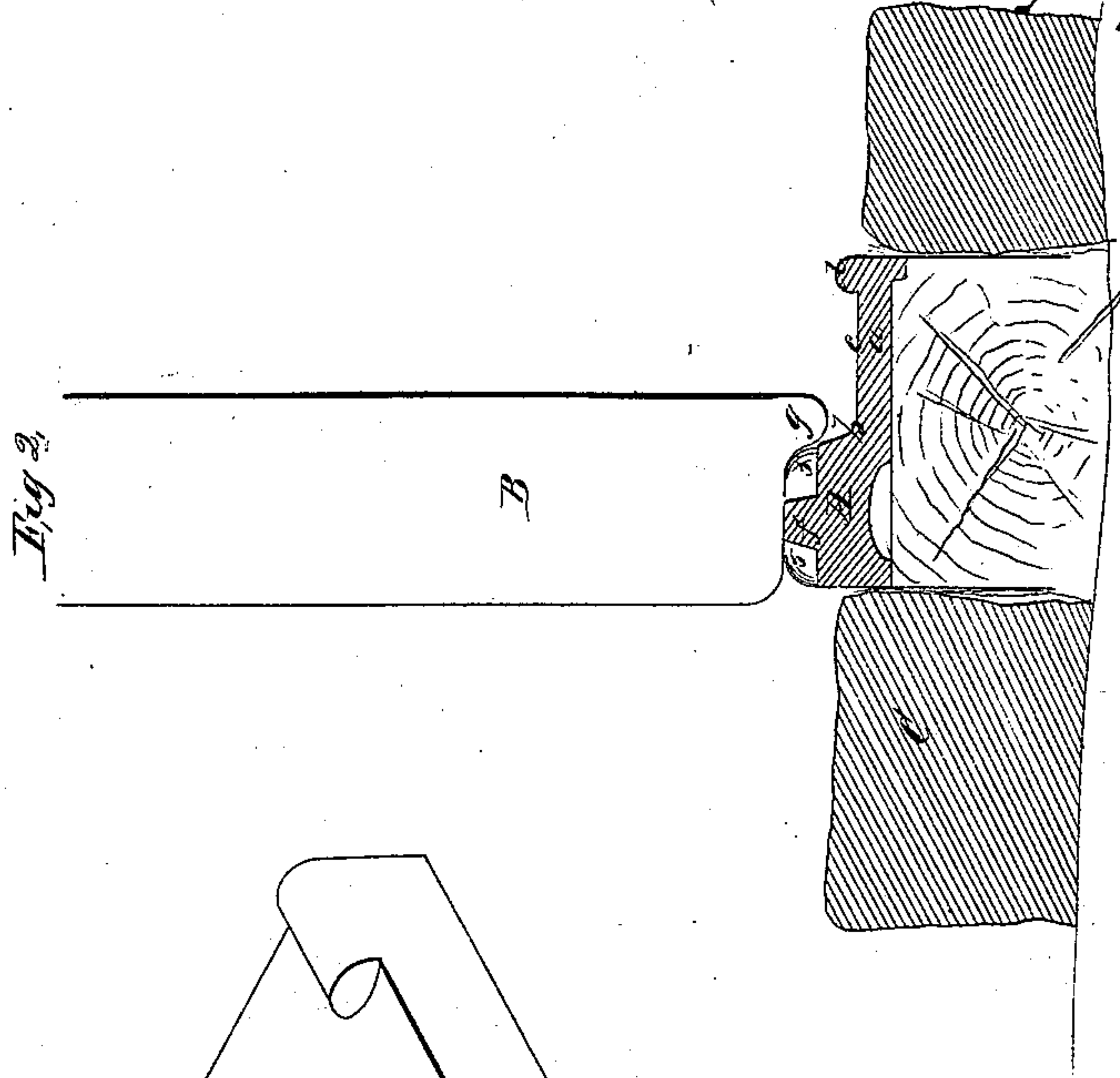


*L. F. Whitney,*

*Railroad Rail,*

*N<sup>o</sup> 36,432.*

*Patented Sep. 9, 1862.*



*Witnesses,*  
*Wm H Harrison*  
*Marcus P. Norton.*

*Inventor,*  
*Luther F. Whitney by*  
*A. Polak atty*



# UNITED STATES PATENT OFFICE.

L. F. WHITNEY, OF CHARLESTOWN, MASSACHUSETTS.

## IMPROVEMENT IN RAILS FOR STREET-RAILROADS.

Specification forming part of Letters Patent No. 36,432, dated September 9, 1862.

*To all whom it may concern:*

Be it known that I, L. F. WHITNEY, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented an Improved Rail for Street-Railroads, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of a short piece of one of my improved rails; Fig. 2, a transverse section through the same (reduced in size) as laid down in the street.

Where rails are laid in the streets of a city to form a track for the passage of cars, as is now customary in most of our large cities, a great objection is made to their interfering with the passage of carriages and other vehicles on account of the slipping of their wheels on the sides of the rails when the attempt is made to cross the railroad-track, and more particularly when the carriage-wheel is running inside of the rail in the groove made for the flange of the car-wheel, as the street-pavement may be raised higher on the outer side of the rail. To remedy this, various kinds of rails have been devised with their sides and tops notched or scored in various ways, but, so far as I am informed, without accomplishing the desired end—viz., having a continuous smooth bearing for the car-wheel to run on, and yet one which can be crossed by other vehicles without their wheels sliding along the rail. Such a rail, however, I consider that I have produced by my present invention, which consists of a rail having a continuous bearing for the car-wheel, in combination with enlargements or excrescences on its top at short intervals, which are so placed and bear such a relation in size and height to the depth of the groove in which the flange of the car-wheel runs that the periphery of a wheel of a carriage will strike on one of the excrescences when the carriage is turned to pull out of the track, and will rise over the rail, instead of slipping along it.

That others skilled in the art may understand and use my invention, I will proceed to describe the manner in which I have carried out the same.

In the said drawings, A is the body of the rail, which is made thinner or has a depression in it at *a*, which leaves the shoulder *b* for the flange of the car-wheel to run against and a broad flat face, *c*, for the wheels of other ve-

hicles to run on. The edge of the rail on this side terminates in a rib, *d*, which is notched out at *e* to assist the carriage-wheels in turning out. The top of the rail has formed along its length a rib, *f*, for the tread of the car-wheel B to run on, as shown in Fig. 2, the flange *g* running in contact with the side *b* of the rail. Excrescences *h* are formed at short intervals along the top of the rail of the form of a hemisphere flattened on top. They embrace the rib *f* and project laterally on each side of it to the outer edge, *i*, of the rail on one side and to the edge of the shoulder *b* on the other. (The form of these excrescences may be varied somewhat, but the one here represented is that which I prefer.) Their size and form, however, must be so proportioned to the height of the shoulder *b* above the face *c* and of the edge *i* of the rail above the pavement C, Fig. 2, that a carriage-wheel of the ordinary diameter when turned to cross the rail will come in contact with the bulge *h* of one of the excrescences *h* and rise over the rail, instead of slipping along it, against either the edge *i* or the shoulder *b*.

The rib *d* may be dispensed with when it is intended to allow vehicles with wheels having a wide tread to run on the face *c*.

Having thus described my invention, I would here observe that street-rails have heretofore been constructed with a rib smooth and level on their upper surface and with side excrescences both upon the rail sides and the flange or inner rib. Such rails are impracticable for the reason that they could not be made of wrought-iron, since their form or shape is such as to render their delivery from the rolls, if not impossible, at least attended with serious difficulty, and also because the excrescences are so formed and arranged in relation to each other as to interfere with the proper operation and functions of the parts.

I claim—

The tread-rib *f*, in combination with the shoulder *b* and equidistant laterally-protruding knobs, substantially as shown and described.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

L. F. WHITNEY.

Witnesses:

JOSEPH GAVETT,  
RUFUS S. MERRILL.