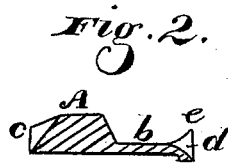
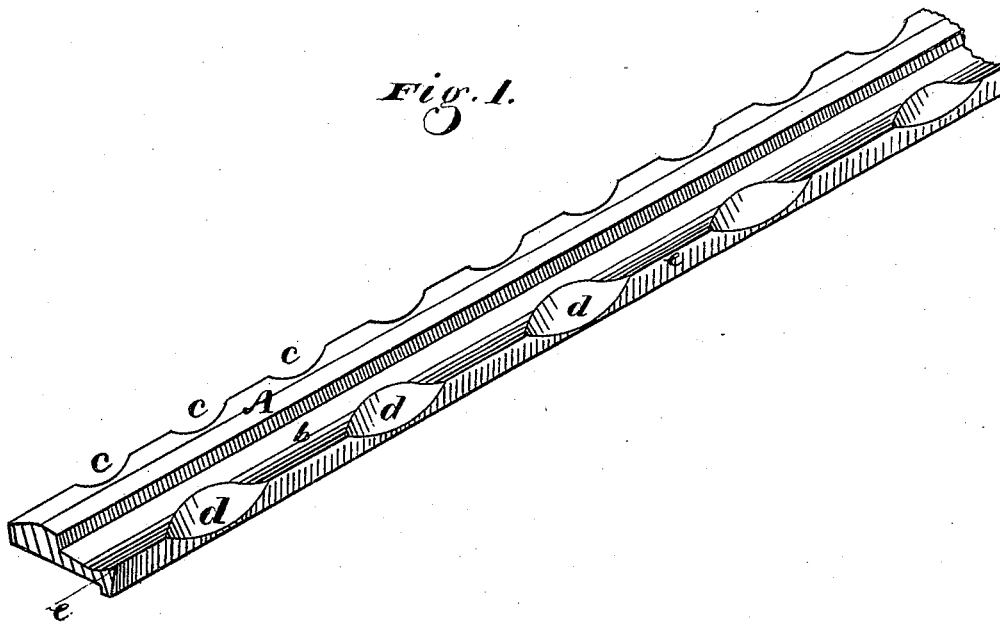


C. T. HOPKINS.  
STREET-RAILWAY RAIL.

No. 180,237.

Patented July 25, 1876.



Witnesses  
*Geo. H. Strong*  
*J. L. Boone*

Inventor  
*Carpenter Hopkins*  
by *Dewey & Co.*  
Attys.

# UNITED STATES PATENT OFFICE.

CASPAR T. HOPKINS, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN STREET-RAILROAD RAILS.

Specification forming part of Letters Patent No. **180,237**, dated July 25, 1876; application filed June 2, 1876.

*To all whom it may concern:*

Be it known that I, CASPAR T. HOPKINS, of San Francisco city and county, State of California, have invented an Improved Ribbon-Rail; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to certain improvements in that class of rails which are employed upon street-railways; and it consists in constructing the rails with corrugations or indentations upon their outer edges, so that it will be easy for any vehicle to cross them at acute angles without the difficulty of sliding along the edge of the rail, as has heretofore been the case.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1. is a perspective view of my rail. Fig. 2 is a transverse section or end view.

A is the portion of the rail upon which the tread of the car-wheel runs, and *b* is the depressed portion, which receives the flange. Upon the outer edge of the part A are depressions *c*, made at certain intervals, so that when the wheel of a vehicle strikes the rail at an acute angle it will not slide along, but will rise upon the rail by reason of striking the inside of one of the notches, and thus it will be easy to pass over the rail at any time. The inside edge may also be provided with notches *d*; but, in order to assist vehicles to leave the line of tracks, where the wheels fit perfectly, it will be necessary to construct the track so

as to stop the wheel without corrugating the inner edge of the part A, as this would interrupt the smooth movement of the car-wheels. I therefore construct the part *b* with its inner edge rising slightly, as shown at *e*, and the depressions or corrugations are made in this edge. The effect of this construction will be to cause the back portion of a wheel to run or bind upon this edge as soon as it is turned to leave the track, and, when it falls into the first of the depressions, it will be prevented from sliding any farther until its forward part has mounted the inside of the part A, so as to leave the track. This corrugation of the rails will present such obstructions that vehicle-wheels will easily cross or leave the rails, and the strain upon the rails and road-bed caused by the side pressure of heavy teams which are attempting to cross at an acute angle with the line will be avoided.

I am aware that rails have heretofore been made having nodular protuberances and rectangular depressions to achieve the same result desired by me, but the protuberances involve the use of additional metal, and the sharp edges of the rectangular openings are injurious to wagon-tires.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

As a new article of manufacture, a railroad-rail having curved depressions at intervals cut diagonally into its outer upper edges, substantially as set forth.

C. THO. HOPKINS.

Witnesses:

GEO. H. STRONG,  
CHAS. G. PAGE.