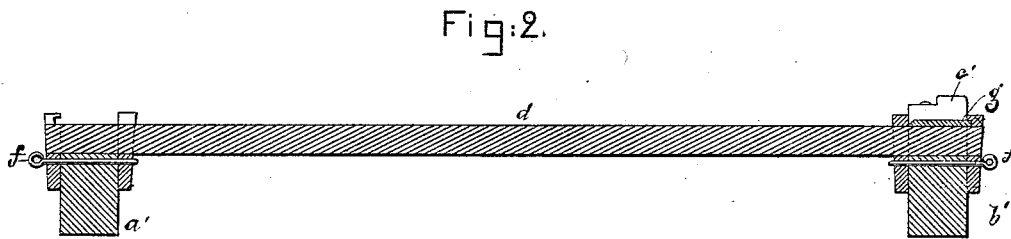
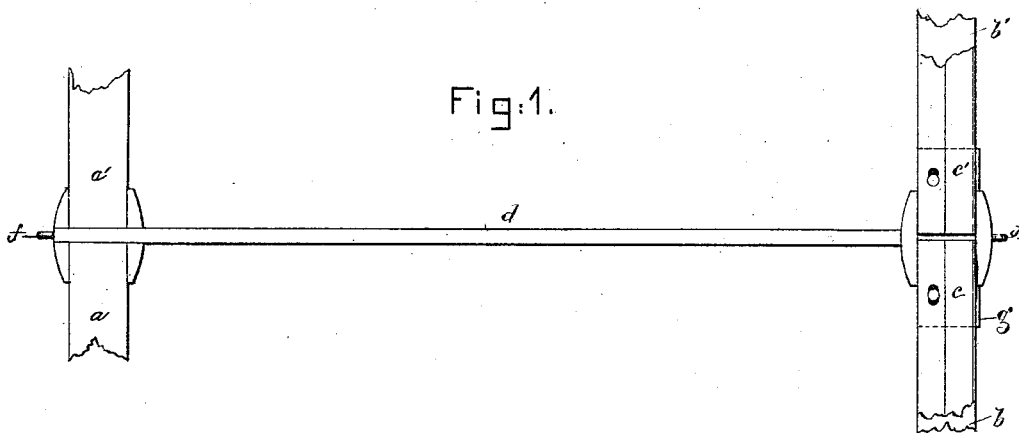


J. BUCKNER, Jr.  
Railway-Track.

No. 212,127.

Patented Feb. 11, 1879.



Witnesses.

*A. Hemenwadel*  
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*by Crosby & Morgan Attys*

# UNITED STATES PATENT OFFICE.

JAMES BUCKNER, JR., OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN RAILWAY-TRACKS.

Specification forming part of Letters Patent No. 212,127, dated February 11, 1879; application filed March 8, 1878.

*To all whom it may concern:*

Be it known that I, JAMES BUCKNER, Jr., of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Street-Railways, of which the following is a specification:

This invention relates to improvements in street-railways, and has special reference to the combination and construction of the parts which co-operate with the usual longitudinal stringers to hold such stringers and rails in position.

Usually the wooden stringers are held together by wooden sleepers. In some instances the stringers have been held together by metal braces bifurcated at their ends, each member of each bifurcated end receiving through it a spike, one spike entering the top and the other the side of the stringer, near its lower edge.

In this my invention I join opposite stringers by means of connecting devices composed of wrought-metal bars, having coupled with or forming part of them grooved stringer-holders, between which the stringers and the rail-supporting plates are held firmly. These stringer-holders are made to extend upward sufficiently far to retain in place a rail-support, which acts to prevent the ends of the rails from sagging, and also upward far enough to prevent lateral motion of the rail or rails with reference to the stringer and rail supports.

Figure 1 represents, in top view, longitudinal stringers of a street-railway joined by my improved connecting devices. The right-hand side of the figure shows the ends of two rails located upon the stringers. Fig. 2, a cross-section of Fig. 1.

In the drawings, *a a' b b'* represent the usual longitudinal wooden stringers, which support the rails *c c'*, they being of any usual construction.

The connecting devices for the stringers are composed of metallic bars *d*, made of wrought-iron, to which are rigidly secured the stringer-holders, they being adapted to receive between them the stringers.

The upper surface of the bar *d* is placed

preferably at or below the level of the top of the stringers.

The stringer-holders are connected with the stringers by means of bolts *f* or spikes or screws.

The stringer-holders are extended upward, and grooved to receive between them the metallic rail-supporting plate *g*, which, held securely by the stringer-holders, prevents the meeting ends of the rails from sagging or becoming depressed. The stringer-holders are also extended upward sufficiently far to form shoulders, between which rest the rails, thereby preventing such rails from being moved laterally.

In Fig. 1 the ends of the rails are not brought as closely together as they will be in practice. In such figure the supporting-plate *g* is shown in dotted lines.

By this construction it is obvious that the stringers will be so firmly grasped by the stringer-holders, retained fixedly in position by the metallic bar *d*, that the longitudinal rows of stringers cannot possibly spread apart or twist by reason of strain on or near the track.

The rails will be attached at suitable intervals to the stringers, and also to the rail-supports by any usual spikes or bolts employed for such purposes.

In practice I cast the stringer-holders directly upon the metal bars *d*, thereby positively fastening them one to the other.

The top of the supporting-plate will be level with the upper surface of the stringers.

Cross-bars uniting stringers in railway-tracks have been provided with stringer-holding devices embracing the stringers and rails before this my invention.

I claim—

1. The stringer-holders embracing the stringers and rails, and grooved to receive a rail-supporting plate, in combination with the connecting-rod *d*, substantially as described.
2. The wrought-metal bars and the attached upwardly and downwardly extended stringer-holders, adapted to grasp the stringers at each side thereof below the bars, in combination with a rail-supporting plate held between the upwardly-projecting portions of

the stringer-holders, substantially as and for the purpose described.

3. The combination, with the wrought-metal bar, of stringer-holders positively connected therewith and extended upward, as described, in combination with the rail-supporting plate and rails, to prevent the descent of the meeting ends of the rails and their lateral movement.

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

JAMES BUCKNER, JR.

Witnesses:

G. W. GREGORY,  
LILLIAN A. BAXTER.