A. BOWMAN.

Railway-Track.

No. 211,885. Patented Feb. 4, 1879.

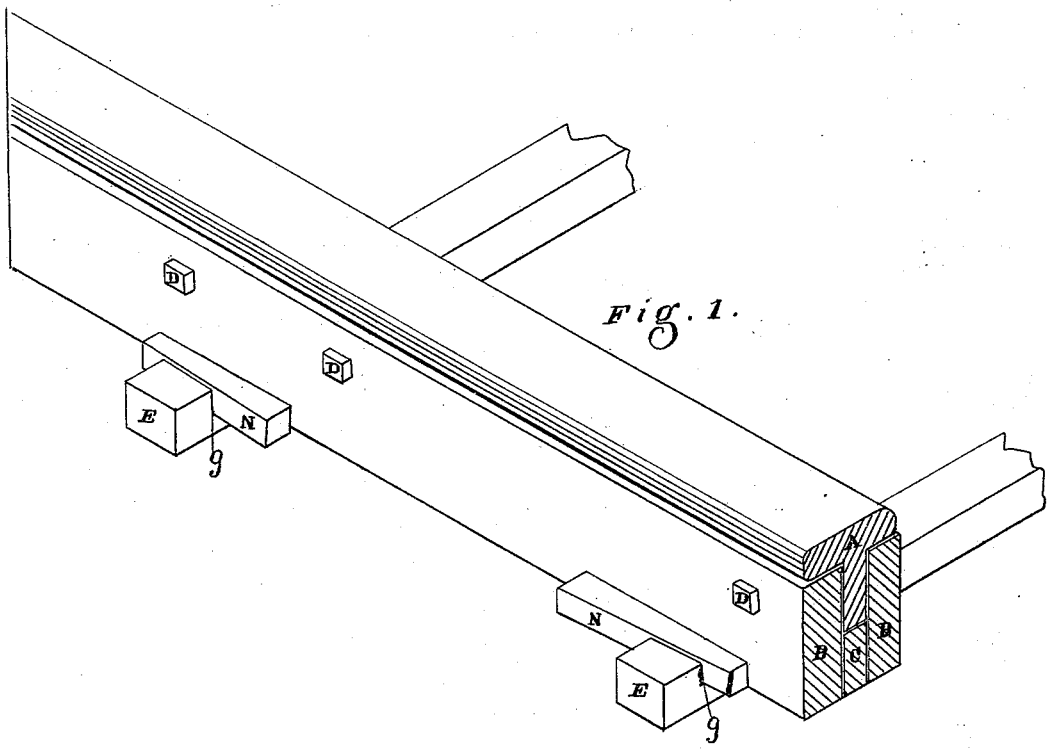
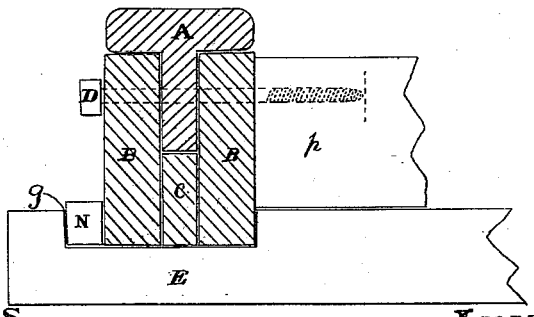


Fig. 1.

Fig. 2.



Witnesses

Geo. H. Strong.

Jno. L. Boone

Inventor

Amos Bowman

by Dewey & Co

Attys

UNITED STATES PATENT OFFICE.

AMOS BOWMAN, OF SEATTLE, WASHINGTON TERRITORY.

IMPROVEMENT IN RAILWAY-TRACKS.

Specification forming part of Letters Patent No. **211,885**, dated February 4, 1879; application filed February 21, 1878.

To all whom it may concern:

Be it known that I, AMOS BOWMAN, of Seattle, King county, Washington Territory, have invented an Improvement in Railway-Track Construction; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in railway-construction; and it consists in a system of railway-track embracing a three-part rail of peculiar construction, whereby the parts are united in a manner to give the greatest strength, a facility of interchanging the parts, repairing or replacing them, and a means for uniting the parts of the rail together and to the tie, so that the whole device will be solid, and will also be braced against the pressure of the wheel and warping.

My improvements are more especially intended to be employed in building railways in places where it is necessary to graduate the expense to the lowest figure or to the traffic, and they contemplate the employment of thin wooden side or base strips, set vertically on edge, so as to give the greatest vertical strength, said strips having their lower edges separated by parting strips, and receiving a metal T-rail between their upper edges, the head of which serves as a bearing and adhesive or frictional surface for the wheels of the train. These three parts break joints with each other and are bolted together, and in combination with these I employ a grooved or notched cross-tie and a beveled wedge-shaped block, which not only secures the rails and ties together to form a system, but from its shape acts as a brace against the side strips forming the rail to resist from the outside the action of the passing wheels upon the rail.

In order to more fully explain my invention, reference is made to the accompanying drawings, in which—

Figure 1 is perspective view, and Fig. 2 is a side elevation.

A represents a steel or iron T-rail, which is to form the surface of the track. B B are two thin wooden rails or clamping-boards, which form the base-rail or support of the T-rail, and they are made of considerable depth. The web of the T-rail passes down between the upper edges of the wooden strips or stringers B, so that the head of the metal T-rail will rest upon them.

I make the clamping strips or stringers higher than the depth of the web of the T-rail, and introduce independent wooden strips C below it, of the same thickness as the web of the T-rail, so as to fill the space below the web, as represented. Bolts D D are then passed through the clamping or base rails B B and through the web of the T-rail, while nuts may serve in the usual way to draw the side rails together, and thus bind the web of the metal rail firmly between them.

The wooden side or base rails I apply so that they will break joints with each other, and thus provide a perfectly solid and continuous support for the metal rail.

E E are the cross-ties upon which my combination-rail above described is secured. Near each end of these ties I make a notch or recess, *g*, which is longer than the thickness of the base of the rail, so that when the rail is seated in them a space will be left between the outside of the rail and outside shoulder of the notch. I then drive a wedge, N, into the space or extension outside of the rail, so as to firmly wedge the rail in the notch and hold it immovably in place. This wedge can be secured in place by spikes or other fastening, so as to prevent it from being loosened by jars or by accident; but by making it with a very slight draw or bevel I am enabled to retain it in place, and its tendency to contract and loosen in dry weather is very slight. Besides forming a bond in my system, it is of great value as a brace to support the rails against the pressure of the wheels. This wedge also enables me to use the thin side strips without danger of warping. I thus provide a superior railway-rail and system which can be cheaply constructed, and which will be quite elastic, while the whole forms a simple but substantial track that will be especially valuable in wooded countries.

The base-strips B, I form of ordinary boards, set on edge, and of a depth vertically of, say, six inches. The support given by cross-ties at short intervals and the bracing of the wedges will be ample to prevent the rail from being

damaged by side strain or warping, and no extra grooving or finish will be needed to receive the lower part of the rail, as in cases where the rail is formed with shoulders or a projecting base. My T-rail is also much lighter and cheaper than any other.

I am aware that a three-part rail has been formed by uniting an iron bearing-rail with wooden sleepers grooved to receive the web; and I am also aware that a solid trapezoidal rail has been secured to cross-ties by means of wedges. In the former case no method of supporting or securing the rails so as to form a practical railway is shown, while in the latter case a solid wooden rail must be formed of sufficient size to support the weight of a train, and of a peculiar shape, which will necessitate considerable expense in getting it out.

I form a rail of light straight side pieces having a metal bearing-head, and combined with this rail the cross-ties and the inclined bracing and strengthening wedges, which enable me to use lighter and cheaper materials, and prevent warping of the rails.

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

The system of railway-construction consisting of the metal T-rail A, thin vertical side stringers B B, bolted together as shown, and provided with the independent strips C, in combination with the notched cross-ties E and holding and bracing wedges *g*, when constructed to operate together, substantially as herein described.

In witness whereof I have hereunto set my hand and seal.

AMOS BOWMAN. [L. S.]

Witnesses:

FRANK A. BROOKS,

JNO. L. BOONE.