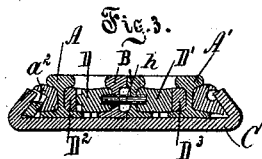
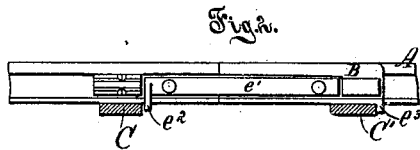
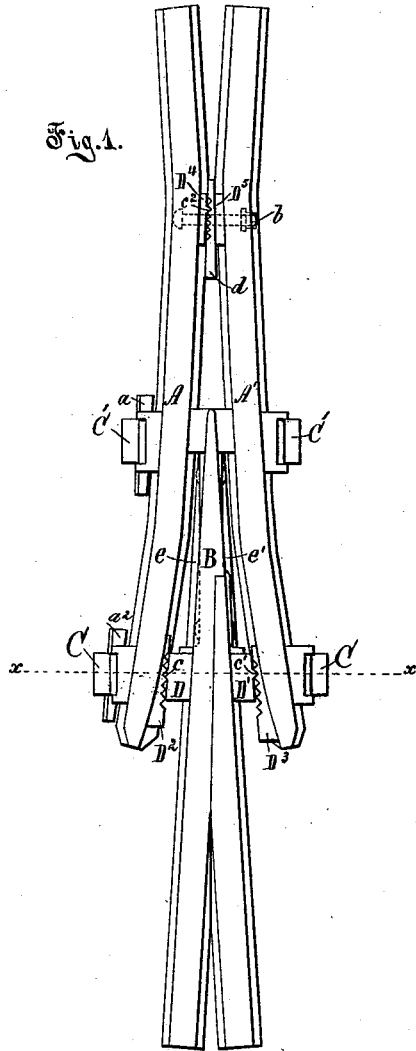


J. BRAHN.  
Frog.

No. 201,154.

Patented March 12, 1878.



Witnesses:

Theodore Wosten  
R. E. Clark

Inventor:

James Brahn  
By *H. Wick*  
his atty.

# UNITED STATES PATENT OFFICE.

JAMES BRAHN, OF JERSEY CITY, NEW JERSEY.

## IMPROVEMENT IN FROGS.

Specification forming part of Letters Patent No. **201,154**, dated March 12, 1878; application filed February 5, 1878.

*To all whom it may concern:*

Be it known that I, JAMES BRAHN, of Jersey City, State of New Jersey, have invented a certain new and useful Improvement in Railway-Frogs, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same.

Figure 1 is a plan or upper face view of a railway-frog containing my invention. Fig. 2 is a side view of a piece or section of the same, one of the side rails being removed, so as to expose to view one side of the point with the brace attached to it; and Fig. 3, a cross-section cut through on line *x x*, Fig. 1.

My invention relates to the space-blocks used in that description of railway-frogs that are made of separate rails bolted together, instead of being cast or formed whole of a single mass of iron or steel; and consists in making said blocks severally of two or more parts, one of which is made tapering or wedge-shaped, and provided with notches on its side contiguous to the other part, such other part being provided with one or more ribs or projections fitted to take into the said notches, whereby the block composed of these parts is made adjustable to different widths of space between the rails, and the parts held securely in position.

The frog represented by the drawings is, in its general construction, well known, being similar to those in common use.

A A' are the sides or wing-rails; B, the point. These parts are represented as held together by what are called "clips," C, the same being bars of iron extending across from side to side under the rails, turned up over at the ends, as seen plainly in Fig. 3, so that keys *a*, being driven in between said bent ends and the flanges of the rails, will bind the whole firmly together. In place of these clips, bolts passing through the rails and blocks may be used, if preferred, as represented at *b*, Fig. 1.

The space-blocks are indicated by the letter D, those at the rear end of the wing-rails, between the latter and the point B, being formed of the blocks D D<sup>1</sup> and the wedges D<sup>2</sup> D<sup>3</sup>. In the latter are formed notches on the side next D D<sup>1</sup>, which are provided with ribs, teeth, or projections *c c*<sup>1</sup>, fitted to take into the said notches. The block between the wing-rails

themselves is shown as formed of two side pieces, D<sup>4</sup> D<sup>5</sup>, the wedge *d* being placed between them. The latter is notched on one side, and the adjacent faces of the piece D<sup>4</sup> of the block on that side are provided with a projection, *c*<sup>2</sup>, to take into said notches. These blocks may be made of two parts only, as at D D<sup>1</sup> D<sup>2</sup> D<sup>3</sup>, or of three, as at D<sup>4</sup> D<sup>5</sup> *d*.

The special object of these adjustable blocks is to furnish a convenient means of adjusting the wing-rails to the point, to bring them into line with each other, the wedges described and shown constituting, as is evident, such means. By loosening the wedges in the ends of the clips, when clips are used, or turning back the nuts on the bolts, when the latter are employed, the said wedges may be set to separate the rails from the point at one end, or from each other at the other end, of the switch any desired distance. Then, when the clip-wedges or the nuts are tightened up, the block-wedges will, by means of the notches in them and the projections on the adjacent faces of the blocks, be held securely in place.

When clips are used, it is necessary that they shall be prevented from shifting their places, which they will have a tendency to do, for the reason that the side rails incline toward each other from their ends toward the throat of the frog. The clip C is kept in place by means of projections or short arms extending downward from the rear ends of the stay-bars *e e*<sup>1</sup>, secured to the sides of the point. The projection or arm on the bar *e*<sup>1</sup> is shown at *e*<sup>2</sup> in Fig. 2. These arms, projecting down just in front of the clip C, will prevent it from sliding forward, the form of the wing-rails preventing it from shifting in the opposite direction. A short arm or lug, *e*<sup>3</sup>, projects downward from the lower edge of the end of the tongue B, directly in front of the clip C, which holds that clip in place in a similar manner.

When a bolt, as *b*, is used instead of a clip, the hole in the wedge through which the bolt passes must be slotted to permit the adjustment of the wedge.

*h* is a dowel pin or bolt fitted into a hole made through the point B. The ends project somewhat beyond the sides of the point into recesses made in the contiguous faces of the blocks D D<sup>1</sup>. This serves to prevent the said

blocks D D' from shifting out rearward toward the rear ends of the wing-rails. This device is important when a clip is used to bind the wing-rails and point together.

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

1. A space-block in a railway-frog, formed of two or more parts, one of which is wedge-shaped and provided with notches on its face contiguous to the other part, the latter having a rib or projection fitted to engage the said notches, as and for the purpose described.

2. The combination, in a railway-frog formed of separate rails secured together by a clip or

clips, of the clip C and stay-bars *e e'*, fastened to the rails and provided with the arm or projection *e''*, as and for the purpose described.

3. In a railway-frog made of separate rails, a binding-clip, a stay-block, constructed as described, and the dowel pin or bolt *h*, constructed and combined to operate as and for the purpose described.

Witness my hand this 2d day of February, 1878.

JAMES BRAHN.

Witnesses:

B. S. CLARK,

THEODORE G. HOSTER.