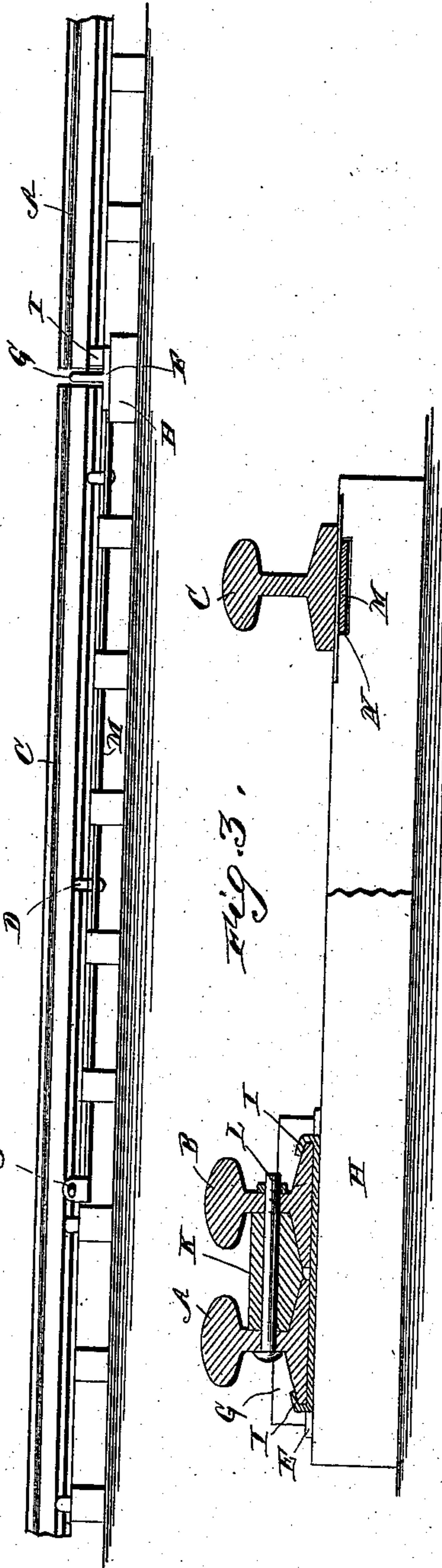
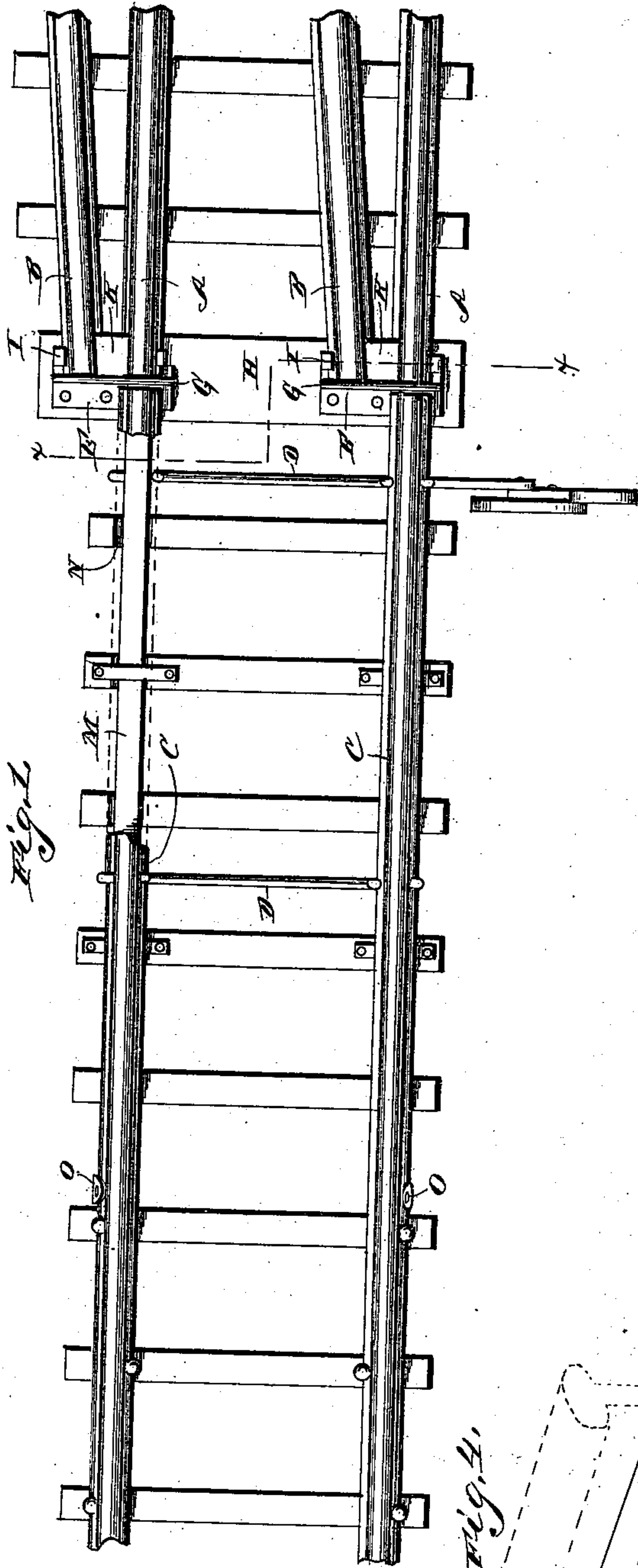


(No Model.)

B. J. DOWNING.  
RAILROAD SWITCH.

No. 377,889.

Patented Feb. 14, 1888.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

BURTON J. DOWNING, OF SEELY, KANSAS.

## RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 377,889, dated February 14, 1888.

Application filed May 11, 1887. Serial No. 237,882. (No model.)

*To all whom it may concern:*

Be it known that I, BURTON J. DOWNING, a citizen of the United States, residing at Seely, in the county of Cowley and State of Kansas, have invented a new and useful Improvement in Railroad-Switches, of which the following is a specification.

My invention relates to an improvement in railway-switches; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a top plan view of a railway-switch embodying my improvements, parts of the switch-rails being broken away to disclose subjacent structures. Fig. 2 is an elevation of the same. Fig. 3 is a transverse sectional view taken on the line *xx* of Fig. 1. Fig. 4 is a detail view of one end of the metallic bar M.

A represents the frog-rails of the main track. B represents the frog-rails of the side track; and C represents the switch-rails, which are arranged in line with the main track and have their ends which are adjacent to the frog-rails free, so that they may be caused to align with the side track, the said switch-rails C being connected together by the usual cross-bars, D, and provided with the usual lever on one side of the track to operate the switch-rails.

E represents chairs, which constitute iron plates F, having on their upper sides at their centers vertically-projecting longitudinal flanges G. The said chairs are secured on a cross-tie, H, by means of the usual railway-spikes, and extend under the ends of the frog-rail A and B, the ends of the said rails bearing against one side of the flanges G. The corners of the plates or chairs are turned upward and caused to bear against opposite sides of the frog-rails, thereby forming securing-lips I, the function of which is to prevent the converging ends of the frog-rails from moving laterally apart. In between the converging ends of the frog-rails are arranged blocks K, which are secured in position on the chairs by means of bolts L. These blocks keep the converging ends of the frog-rails from becoming dis-

placed and moving toward each other. The free ends of the switch-rails K bear upon the chairs on the opposite sides of the flanges G thereof, and thereby the ends of the switch-rails and frog-rails are separated by a space equal to the thickness of the said flanges of the chairs, and consequently the ends of the switch and frog rails can never come in contact with each other and bind so as to render it difficult to operate the switch.

M represents a pair of flat metallic bars, which have their inner ends secured in recesses in the tie H under the chairs. The said bars M are guided longitudinally in recesses N, made in the cross-ties under the free portions of the switch-rails, and the opposite ends of the said bars M are provided with vertical ears O, which bear against the outer sides of the switch-rails and are bolted thereto. The bars M are arranged under the free portions of the switch-rails, and the function of these bars is to prevent the switch-rails from moving longitudinally in either direction, and thereby working loose and endangering the safety of the switch.

A railway-switch thus constructed is extremely cheap and simple, is very strong and durable, and effectually prevents the switch-rails from binding against the ends of the frog-rails, and the latter are so firmly secured in position that they cannot work loose.

Having thus described my invention, I claim—

1. In a railway-switch, the combination of the frog-rails A B, the switch-rails C, and the bars M, arranged under the free portions of the switch-rails and secured in recesses in the ties, one end of each bar having ears O connected to one of the switch-rails at a distance from the rear end thereof and the opposite end of each bar being secured under the ends of the frog-rails, substantially as described.

2. The combination, in a railway-switch, of the chairs comprising the plates having the vertical flanges G near their central portions, the frog-rails having their converging ends secured on the upper side of the plates, the corners of the plates being bent upward against the outer sides of the frog-rails to form clamping-ears I, the switch-rails having their free

ends in proximity to the flanges G, and the bars M, arranged under the free portions of the switch-rails, having the ears O at one end secured to the said switch-rails, and having their  
5 opposite ends secured under the frog-rails, substantially as described.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in presence of two witnesses.

BURTON J. DOWNING.

Witnesses:

J. R. UNDERWOOD,

GEO. H. NORMAN.