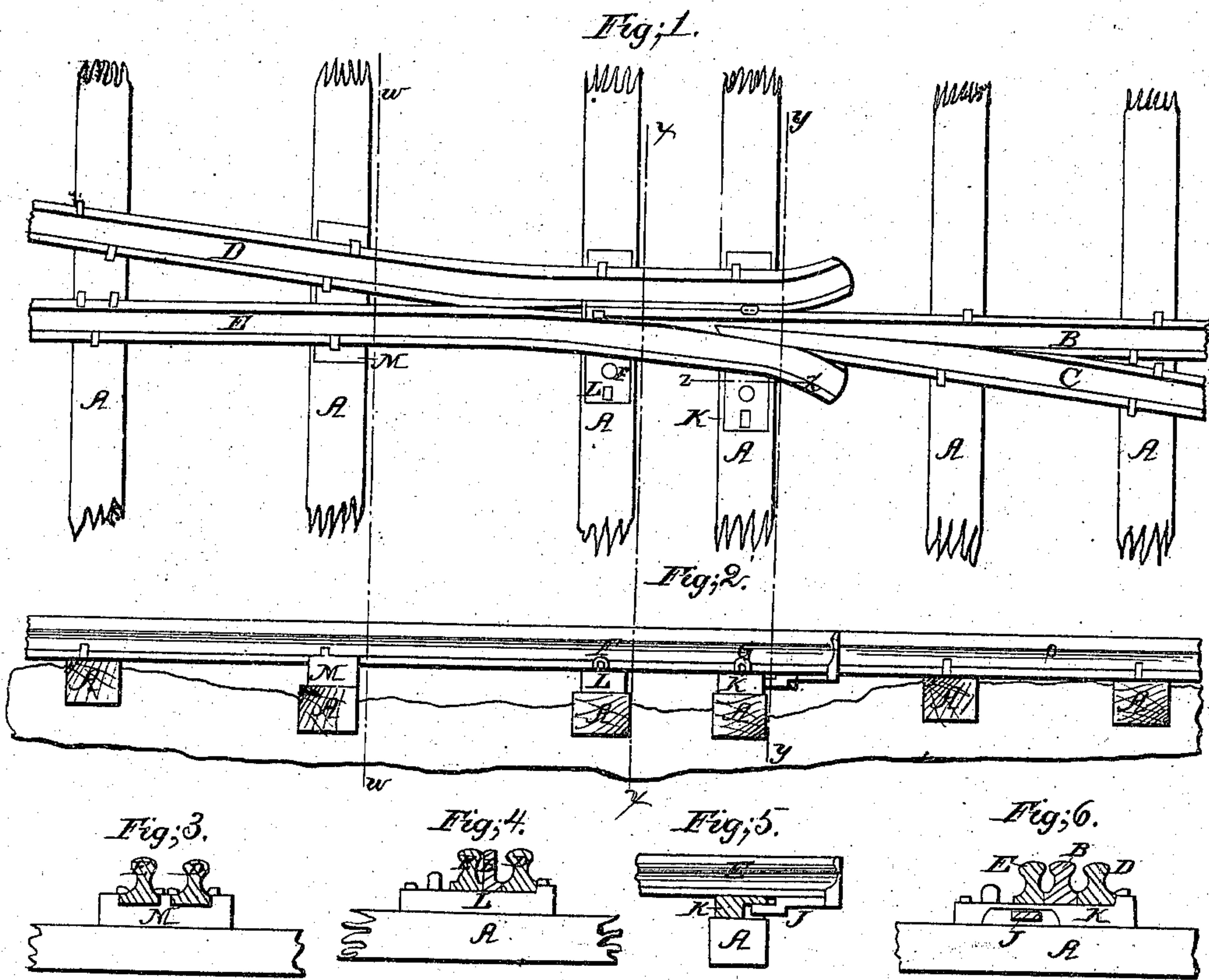


*J.M. Dick.*

*Railroad Frog.*

*N<sup>o</sup> 2,1067.*

*Patented Aug. 3, 1858.*



*Witnesses;*  
*John Cunnely*  
*Thos P How*

*Inventor;*  
*James M Dick*



# UNITED STATES PATENT OFFICE.

JAMES M. DICK, OF BUFFALO, NEW YORK.

## RAILROAD-FROG.

Specification forming part of Letters Patent No. 21,067, dated August 3, 1858; Reissued February 21, 1860, No. 903.

*To all whom it may concern:*

Be it known that I, JAMES M. DICK, of Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Railroad-Frogs, the construction and operation of which I have described in the following specification and illustrated in the accompanying drawings with sufficient clearness to enable competent and skilful workmen in the arts to which it pertains or is most nearly allied to make and use my invention.

My said invention consists first, in the arrangement of the rails which form the frog upon chairs in the manner described, by which I am enabled to remove either limb of the frog without disturbing the other parts; second, in the combination of a rabbeted chair with an underhanging jaw attached to the end of the movable rail which while keeping the rail from rising also allows it to move a considerable distance longitudinally without interfering with its action, and also allows it to be freely removed when the spikes are drawn which hold the fixed part of said rail; third, in placing the frog upon chairs in such a manner as to leave open space under the rails at the point of contact of the rail E with the rails B and C, to allow particles of dirt, snow, and ice, which might work in between the rails at this point, to escape, which would otherwise be likely, as the rail E was forced away to allow the flange of the wheel to pass, to assume such a position as to prevent its return.

In the accompanying drawings Figure 1 is a plan of my improved frog. Fig. 2 is a side elevation. Fig. 3 is a sectional elevation showing the parts immediately at the left hand side of the line W W drawn across Figs. 1 and 2. Fig. 4 is a sectional elevation showing in like manner the parts at the left hand of the line X X. Fig. 5 is a detail elevation showing the combination of the rabbeted chair with the underhanging jaw for securing the movable end of the movable rail without interfering with its free removal where the other fastenings are withdrawn, the chair being represented as being bisected upon the line Z Z. Fig. 6 is an elevation of the parts immediately at the left hand of the line Y Y.

The parts of the frog that are near the

crossing are placed upon chairs K, L, M. These chairs are made with open flanges, or in other words, the flanges are of such form as to prevent the rails of which the frog is formed from moving laterally, but will not prevent their being raised up out of the chair, after the spikes, which secure it in the chair and the chair upon the tie, are drawn.

It has been found by experiment that the severe pressure of the engine laterally upon the movable rail opposite the point of the frog is apt to bend the said rail at that point. To obviate this difficulty, I place a stop immediately opposite the point of the frog in the chair L which stop restricts the motion of the rail E to its proper limit and thus prevents its being bent, which it is apt to be when only supported at the chairs K and M.

As above stated as soon as the spikes are drawn, any part of the upper work of the frog may be removed without further preparation; but to facilitate this object it has been found necessary to devise a new means of fastening down the movable end of the movable rail. This purpose is accomplished by an underhanging jaw J, attached to the under side of the rail, combined with the rabbeted chair K, the jaw working in the rabbet of the chair as represented. This arrangement secures the end of the rail in such a manner that by sliding it endwise after the spikes are drawn it may be taken up and removed.

It will be seen, by an examination of the drawings that the parts are so supported and arranged upon the chairs as to leave an open space below the rails between the point of the frog and the movable end of the rail E for the particles of dirt, snow and ice that may get between the rail E and the rails B and C to fall into, so as not to interrupt the action of said rail.

This device though not adapted to stationary frogs is in this case indispensable.

The particular improvements which constitute my said invention, and which I claim as having been originally and first invented by me are:

1. The construction of the chairs and arrangement of the parts of the frog upon them in the manner described by which I am enabled to remove any part of the frog

without disturbing the other parts as set forth.

2. The combination of the underhanging jaw upon the rail E with the rabbeted chair
- 5 K, as described for the purpose set forth.
3. Arranging the frog upon chairs in such a manner as to leave open space below the

rails at the point where the rail E comes up to the rails B and C substantially as, and for the purpose set forth.

JAMES M. DICK.

Witnesses:

JOHN CRUMLY,  
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