

No. 675,914.

Patented June 11, 1901.

L. C. WILLIAMS.  
RAILWAY FROG.

(Application filed Aug. 2, 1898.)

(No Model.)

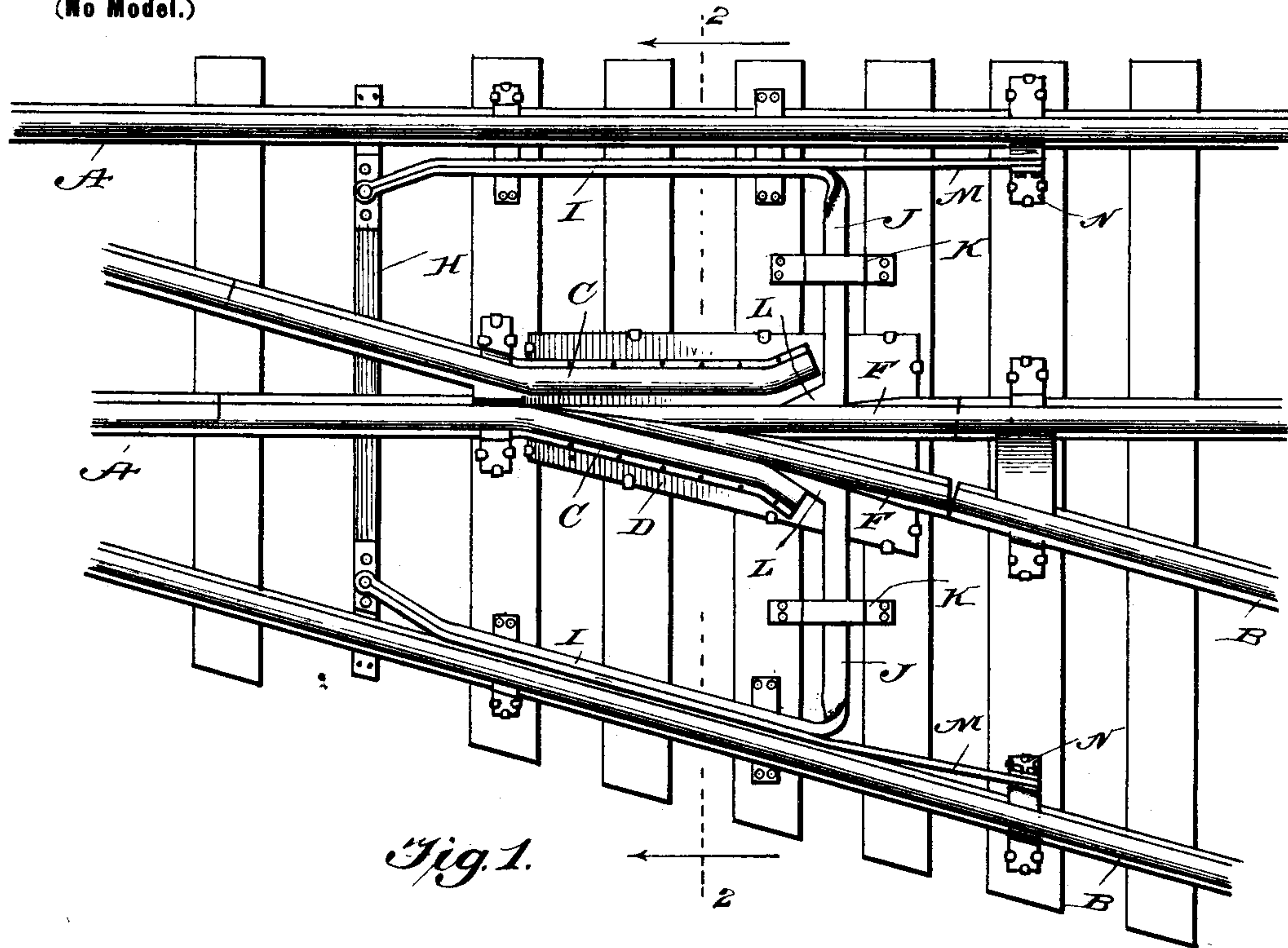


Fig. 1.

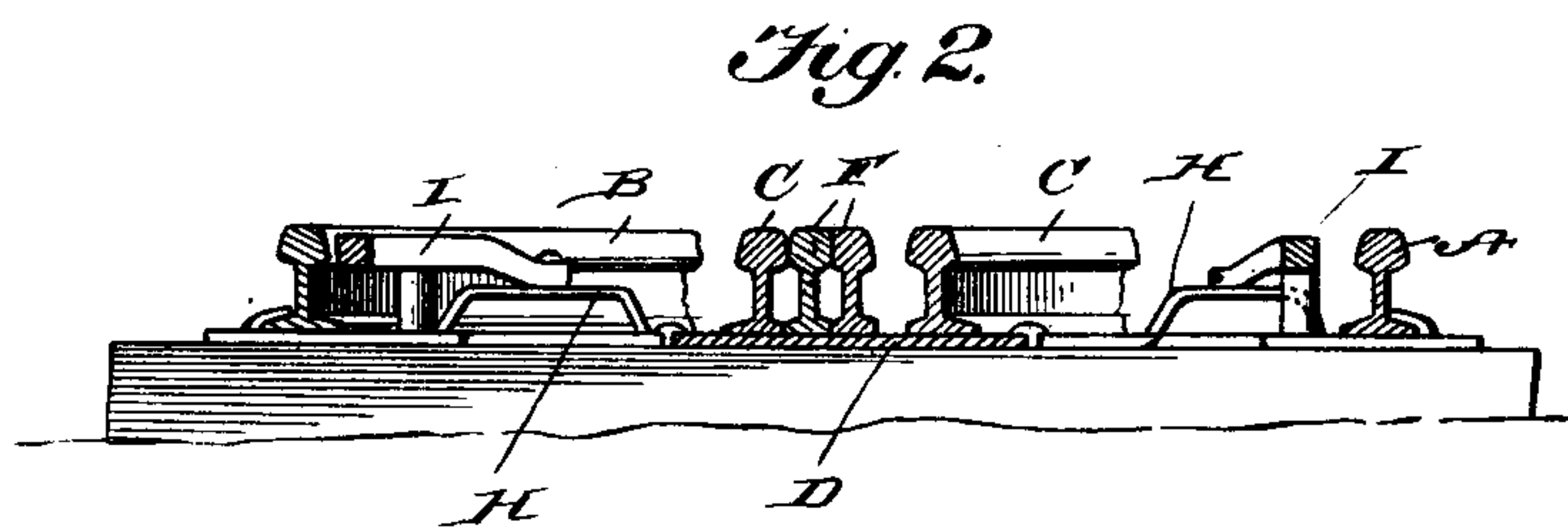


Fig. 2.

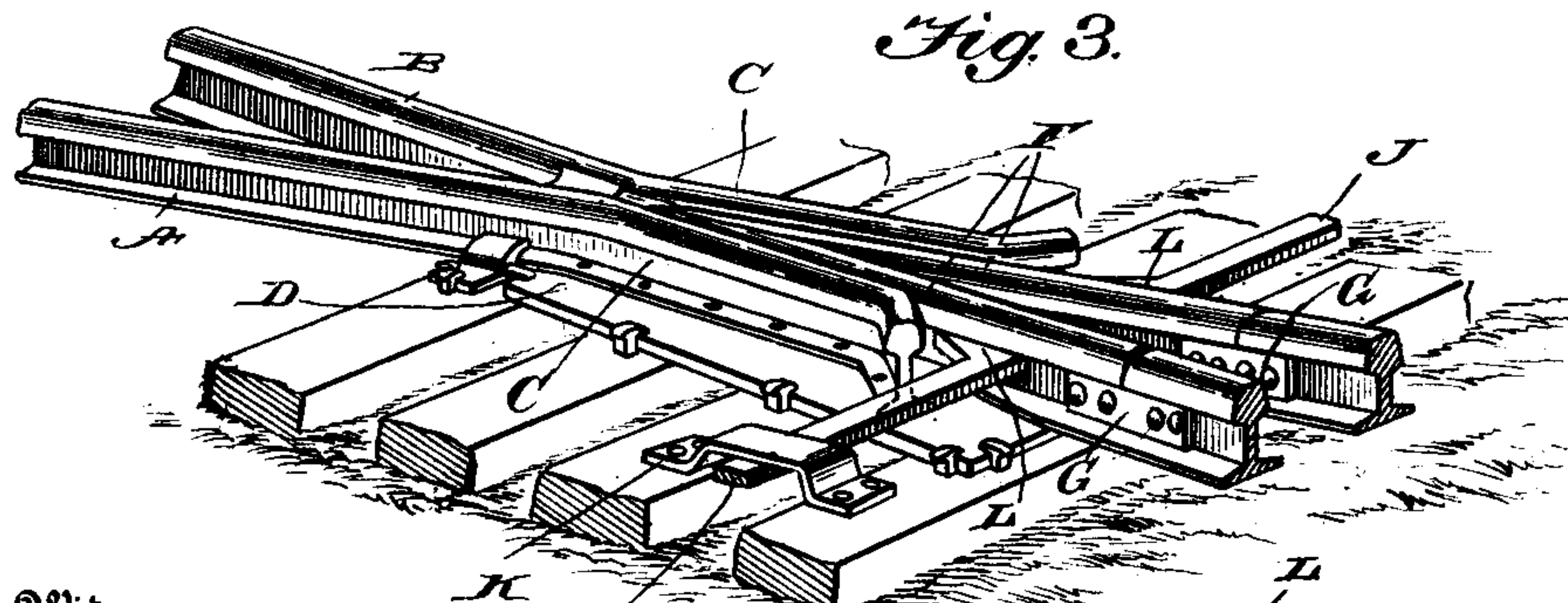


Fig. 3.

Witnesses  
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Fig. 4.

Inventor

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# UNITED STATES PATENT OFFICE.

LEWIS C. WILLIAMS, OF ALTAMONT, MISSOURI.

## RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 675,914, dated June 11, 1901.

Application filed August 2, 1898. Serial No. 687,528. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS C. WILLIAMS, a citizen of the United States, residing at Altamont, in the county of Daviess and State of Missouri, have invented a new and useful Railway-Frog, of which the following is a specification.

This invention relates to improvements in railway-frogs; and the object thereof is to provide a simple and improved construction of frog which is automatically operated by the wheels of the locomotive for the purpose of affording a continuous rail at the intersection of the tracks for the wheels of the respective trains which run thereon.

With the above object in view the invention consists of a movable frog, guard-rails engaging said frog and adapted to be operated by the wheels of the locomotive for swinging said frog into proper position to form a continuous rail for the train at the intersection of the tracks, and spring portions for holding said frog in position to normally form a continuous rail for the main track.

The invention consists in the novel details of construction hereinafter fully described in the specification, particularly referred to in the claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a plan view of a switch embodying my invention. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view, partly in section, of the frog and arm for operating the same carried by the guard-rail. Fig. 4 is a perspective view of one of the guard-rails and operating-arms.

Referring now more particularly to the accompanying drawings, A A designate the rails of the main track, and B B the rails of the side or intersecting track. The wings C C of the switch are secured to the plate D, and movable between these wings is a frog comprising the rail-sections F F, which are flexibly connected at their heels to the inner rails A and B of the main track and of the switch-track, respectively, by the spring fish-plates G G, while the points are free to be moved upon each other. This connection will permit of the points of the frog being moved back and forth between the wings or guards C C by the wheels passing over the tracks.

Movable beneath the rails is a transversely-extending bar H, to the respective ends of which guard-rails I are secured. Each guard-rail in the present instance is formed of a bar of metal doubled upon itself with the portions thereof in contact with each other and formed at its doubled end with an eye i, through which the bolt passes which secures it to bar H. The inner doubled portion of each guard-rail is bent to form the transversely-extending operating-arm J. These arms J pass beneath guides or keepers K, secured to the ties at their outer ends, and are formed with bearing portions L, which engage the respective sides of the frog. The other doubled portion of each guard-rail is extended to form a spring portion M, which is secured at its outer end to a plate N, spiked to the tie. These spring portions of the guard-rails hold the frog normally in position to form a continuous rail for the main track and to return the same to that position after it has been operated by a train passing on the side track.

The operation of my invention is as follows: Should a train be approaching on the side track, the guard-rail will be engaged by the wheels of the locomotive and the frog moved to form a continuous rail, and when the same has passed to the main track the frog will be returned to its normal position, as before stated. Should a train be approaching from the opposite direction, the operation will be the same, and a continuous rail will be formed for the side track, the main track being at all times open.

From the above description it will be seen that I have produced a very simple construction of railway-frog, in which the frog is normally in position to form a continuous rail for the main track, but which is automatically operated by the wheels of the locomotive to form a continuous rail for the intersection or side track.

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

1. In an automatic switch, the combination, with one each of the main and side rails, of frog-sections secured at their heels thereto, the points of said sections being disconnected

and laterally movable, and guard-rails for moving said sections, substantially as described.

2. In an automatic switch, the combination, 5 with one each of the main and side rails, of frog-sections secured at their heels thereto, the points of said sections being disconnected and laterally movable, and spring guard-rails for moving said sections, substantially as described. 10

3. In an automatic switch, the combination, with one each of the main and side rails, of frog-sections secured at their heels thereto, the points of said sections being disconnected 15 and laterally movable, and two guard-rails, each of which is provided with an operating-arm in engagement with its respective frog-section, substantially as described.

4. In an automatic switch, the combination, 20 with one each of the main and side rails, of frog-sections secured thereto, the free ends of which are laterally movable, two guard-

rails, each of which is provided with an operating-arm in engagement with its respective frog-section, and a bar pivotally secured 25 to the ends of the doubled portions of the guard-rails, substantially as described.

5. In an automatic switch, the combination, with one each of the main and side rails, of frog-sections secured thereto, the points of 30 which are laterally movable, two guard-rails, each of which is doubled upon itself for a portion of its length, and one end of the rail at one end of the doubled portion is bent laterally to form an operating-arm and the other 35 end is rigidly secured adjacent to its rail, the free end of the bent portion engaging with its respective frog-section, and a bar for engaging with the free ends of the guard-rails, substantially as described.

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Witnesses:

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