

(No Model.)

A. LAVOIE.  
RAILROAD CROSSING.

No. 573,011.

Patented Dec. 15, 1896.

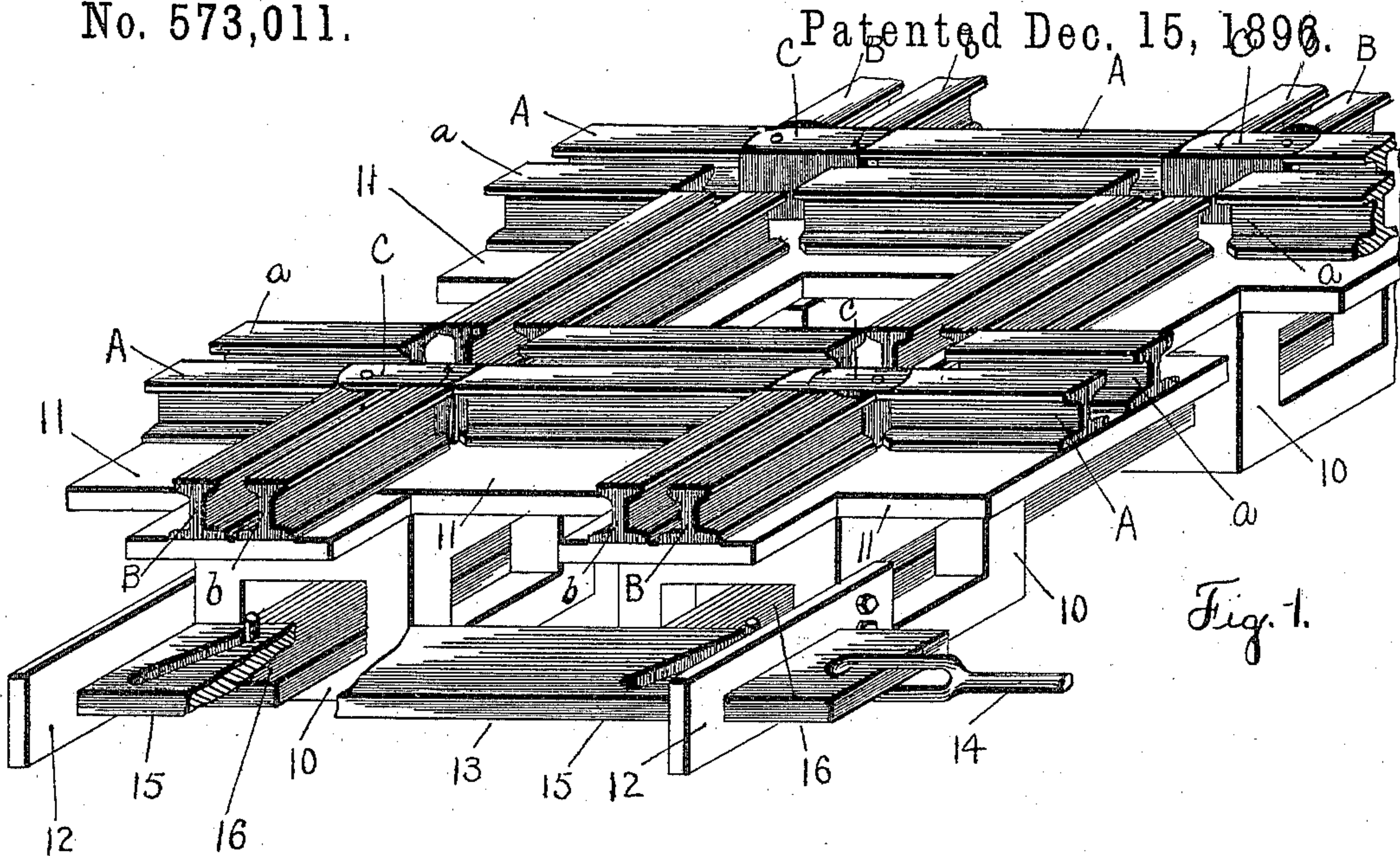


Fig. 1.

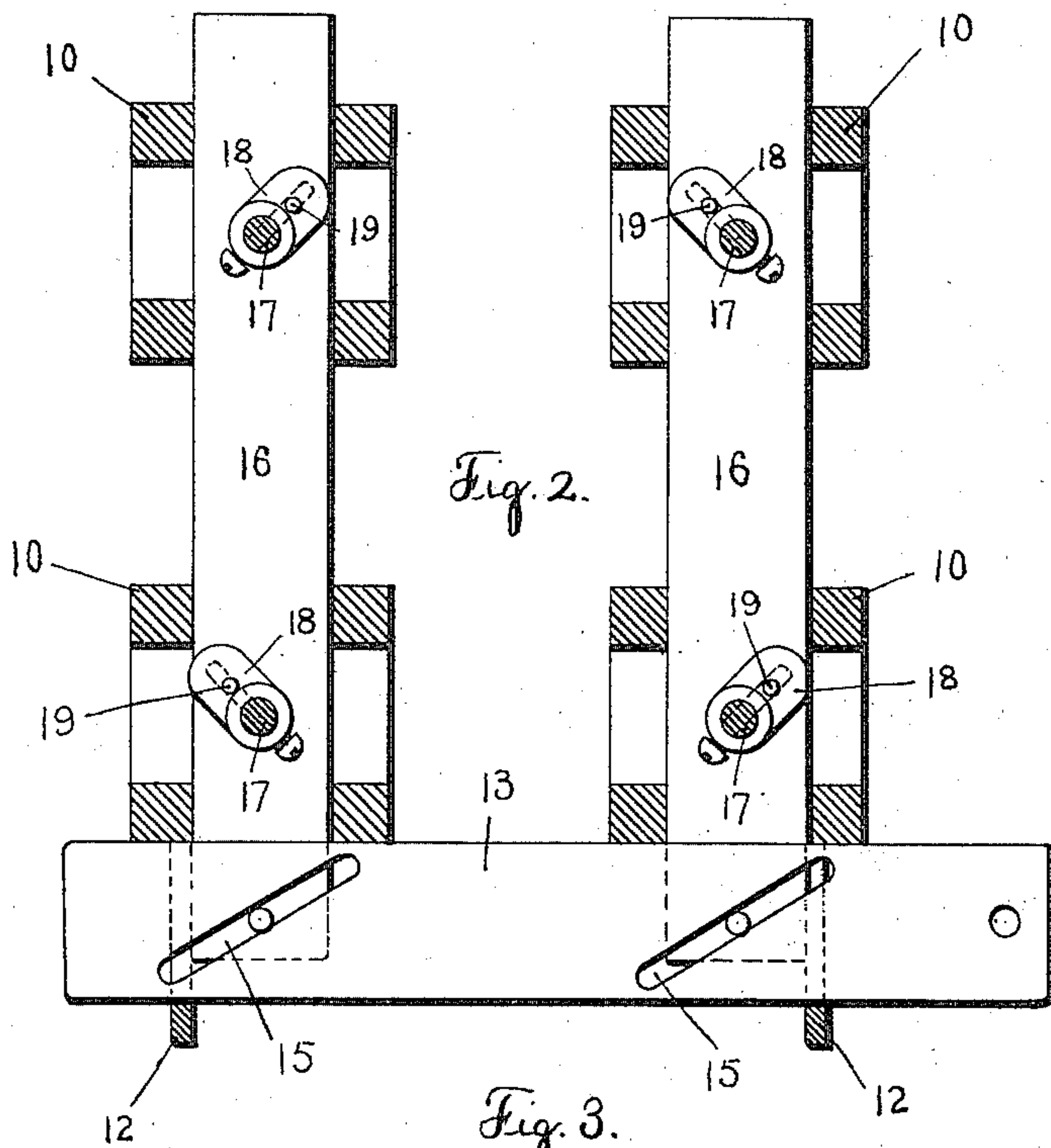


Fig. 2.

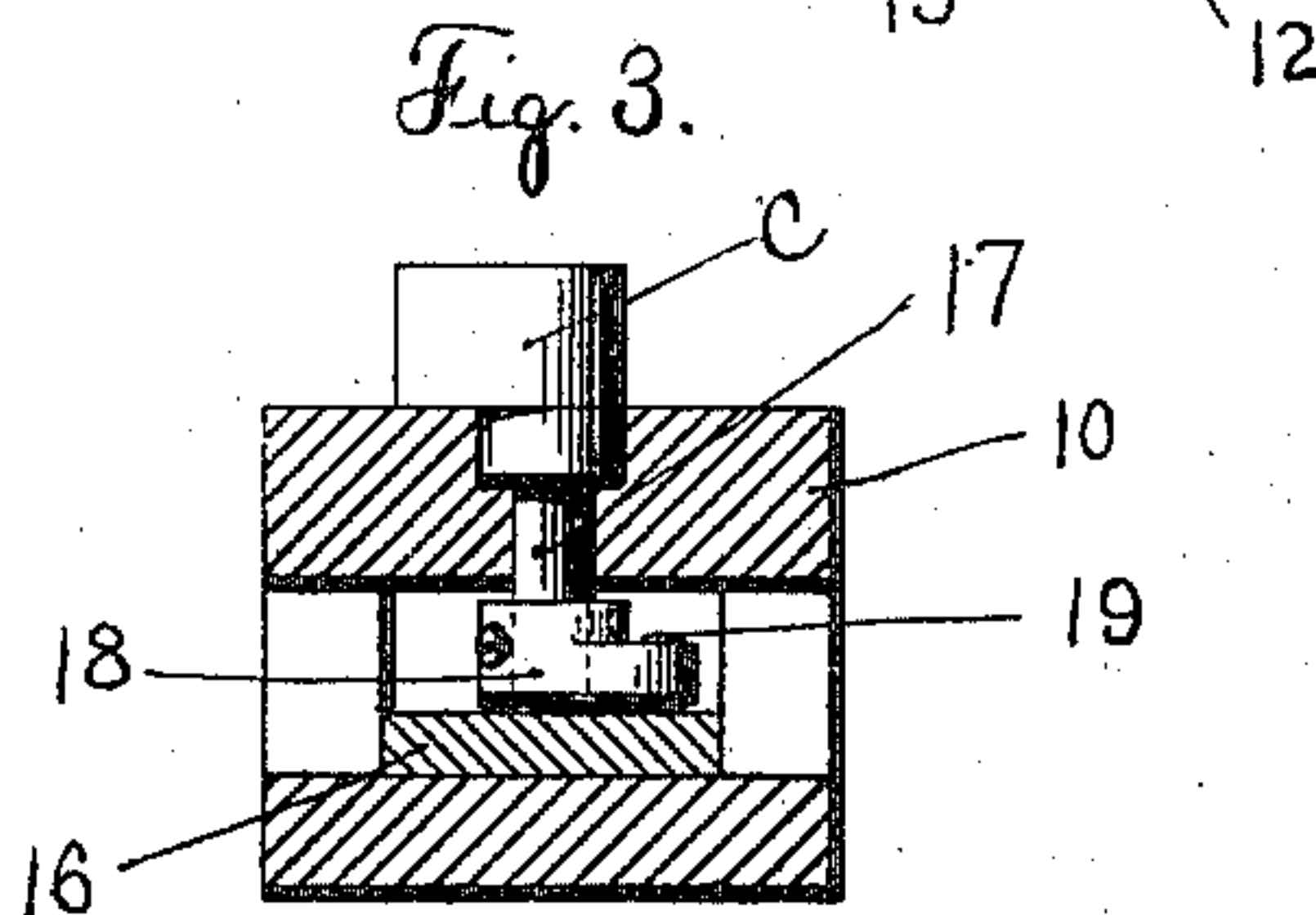


Fig. 3.

Witnesses.

W. J. Baldwin  
H. L. Abbott.

Inventor.  
A. Lavoie.

By  
Southgate & Southgate  
Attorneys.



# UNITED STATES PATENT OFFICE.

AUGUSTE LAVOIE, OF FITCHBURG, MASSACHUSETTS.

## RAILROAD-CROSSING.

SPECIFICATION forming part of Letters Patent No. 573,011, dated December 15, 1896.

Application filed July 23, 1896. Serial No. 600,290. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTE LAVOIE, a subject of the Queen of England, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Railroad-Crossings, of which the following is a specification.

The object of my invention is to provide an improved form of railroad-crossing and to furnish the track-rails of intersecting or crossing railroads with movable sections or bridge-pieces which may be shifted to bring the same into alinement with the track-rails of either road, thus providing a continuous track or way for car-wheels.

An especial object of my invention is to provide a construction in which the movable sections or bridge-pieces are connected and mounted so that they may be automatically brought into alinement with the track-rails of either road by trains passing thereover.

To these ends my invention consists of the parts and combinations of parts as herein-after described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a perspective view of a railroad-crossing constructed according to my invention. Fig. 2 is a sectional plan view illustrating the connections which I preferably employ for actuating the movable sections or bridge-pieces, and Fig. 3 is a detail sectional view showing the manner in which one of the movable sections or bridge-pieces is preferably mounted.

In constructing railroad-crossings it has heretofore ordinarily been the custom to cut away the track-rails of the intersecting or crossing railroads or to leave gaps in the same to allow the flanged wheels of railroad-cars to pass transversely across the same. These gaps or cut-away sections in the track-rails of intersecting railroads are objectionable on account of the danger of derailing the car-wheels and on account of the increased wear and shock which they cause both upon the rails and upon the wheels of trains.

A railway-crossing constructed according to my invention comprises four movable sections or bridge-pieces, which may be turned or shifted so as to be brought into alinement with the track-rails of either road.

In connection with grade-crossings it is customary to provide various signals to show whether it is safe for the trains to be moved along either road, and in practice I preferably provide the movable sections or bridge-pieces which I employ with connections which may be operated substantially in the same manner as an ordinary switch; and, as some person is necessarily employed to attend to and set the signals at a railroad-crossing, the movable sections or bridge-pieces may be shifted or set in the desired position by the same employee who attends to the signals, and my crossing does not, therefore, require the employment of additional help. I also preferably mount the movable sections or bridge-pieces so that, even if they are not set to proper position, they will be automatically shifted and brought into alinement with the track-rails by trains passing thereover.

Referring to the drawings and in detail, A A designate the track-rails of one railway-line, and B B designate the track-rails of an intersecting or crossing railway-line. Arranged parallel with and coöperating with the rails A A are the ordinary retaining or guide rails *a a*. Arranged parallel with the track-rails B B and coöperating therewith are the guide or retaining rails *b b*. Pivotaly mounted substantially at each outer corner of the square formed by the intersecting track-rails A A and B B are the sections or bridge-pieces C. The movable sections or bridge-pieces C may be mounted and connected together in various ways.

As illustrated, 10 10 designate corner supports or castings, which carry top plates 11, on which the track-rails are fastened or bolted in any of the ordinary manners. Bolted to and extending from the castings 10 are two guide pieces or brackets 12, in which is mounted an operating slide or piece 13. The slide or piece 13 may be connected by a link 14, so as to be operated by any of the ordinary operating devices such as are employed in switch-stands. Formed in the operating-slide 13, near its ends, are diagonal slots 15, which fit over and engage pins upon the longitudinally-shiftable operating-slides 16. The pivoted sections or bridge-pieces C are countersunk into the corner pieces or castings 10,



so as to be firmly supported thereby, and are provided with vertical operating-shafts 17. Each of the vertical operating-shafts 17 is provided with a crank-arm 18, having a downwardly-projecting pin 19, which engages a slot in one of the longitudinally-movable slides 16. By means of this construction it will be seen that the movable sections or bridge-pieces C may be shifted to cooperate either with the rails A A or B B, as desired, to form a continuous track or rail for either intersecting road.

One feature which I regard as of particular importance in a railroad-crossing constructed according to my invention is that the movable sections or bridge-pieces C as thus mounted and connected will turn automatically into alinement with the track-rails when a train passes thereover, and on this account a train cannot be derailed or obstructed even if the movable sections or bridge-pieces are not correctly set.

As illustrated in Fig. 1, it will be seen that the bridge-pieces are shown in alinement with the track-rails A A. If, when the parts are in this position, a train should be moved toward the crossing on the track-rails B, the wheels thereof would be brought into engagement with one set of bridge-pieces C C and would automatically shift said bridge-pieces into alinement with the track-rails B B, and through the operating connections, as hereinbefore described, the other bridge-pieces would also be turned into alinement with the track-rails B B.

I am aware that many changes may be made in the construction of railroad-crossings by those who are skilled in the art without departing from the scope of my invention as expressed in the claims. I do not wish, therefore, to be limited to the form which I have shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of the main-track rails of intersecting or crossing railroads, and four sections or bridge-pieces, each of said bridge-pieces being mounted so as to pivot or turn substantially about one end thereof, one of said bridge-pieces being arranged substantially at each corner of the square formed by the intersecting track-rails, said bridge-pieces being mounted so that they may be brought into alinement with the main-track rails of either road, substantially as described.

2. The combination of track-rails of intersecting or crossing railroads, and four sections or bridge-pieces, one of said bridge-pieces being pivoted substantially at each outer corner of the square formed by the intersecting track-rails, longitudinally-movable slides

connected to actuate the bridge-pieces, and means for simultaneously moving said slides, substantially as described.

3. The combination of track-rails of intersecting or crossing railroads, and four sections or bridge-pieces, one of said bridge-pieces being pivoted substantially at each outer corner of the square formed by the intersecting track-rails, vertical shafts connected to said bridge-pieces, crank-arms secured thereon, longitudinally-movable slides, pin-and-slot connections between the slides and the crank-arms, and means for simultaneously moving said slides, substantially as described.

4. The combination of the track-rails of intersecting or crossing railroads, four movable sections or bridge-pieces arranged to be brought into alinement with the track-rails of either road, longitudinally-movable slides connected to actuate said bridge-pieces, an operating-slide and pin-and-slot connections between the operating-slide and the longitudinally-movable slides, substantially as described.

5. The combination of the track-rails of intersecting or crossing railroads, and four movable sections or bridge-pieces, one of said bridge-pieces being pivoted substantially at each outer corner of the square formed by the intersecting track-rails, vertical shafts connected to said bridge-pieces, crank-arms secured thereon, longitudinally-movable slides, pin-and-slot connections between the slides and crank-arms, an operating-slide and pin, and slotted connections between the operating-slide and the longitudinally-movable slides, substantially as described.

6. The combination of corner pieces or castings 10, supporting-plates mounted on said corner-pieces, track-rails of intersecting railroads mounted upon said plates, guide-rails arranged parallel with said track-rails, movable sections or bridge-pieces C pivoted substantially at each outer corner of the square formed by the intersecting track-rails, vertical shafts 17 connected to said bridge-pieces and journaled in the castings 10, crank-arms 18 secured to said shafts, longitudinally-movable slides 16, pin-and-slot connections between the slides 16 and the crank-arms 18, an operating-slide 13 and pin-and-slot connections between the operating-slide 13 and the slide 16, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

AUGUSTE LAVOIE.

Witnesses:

PHILIP W. SOUTHGATE,  
CLARK A. BATCHELDER.