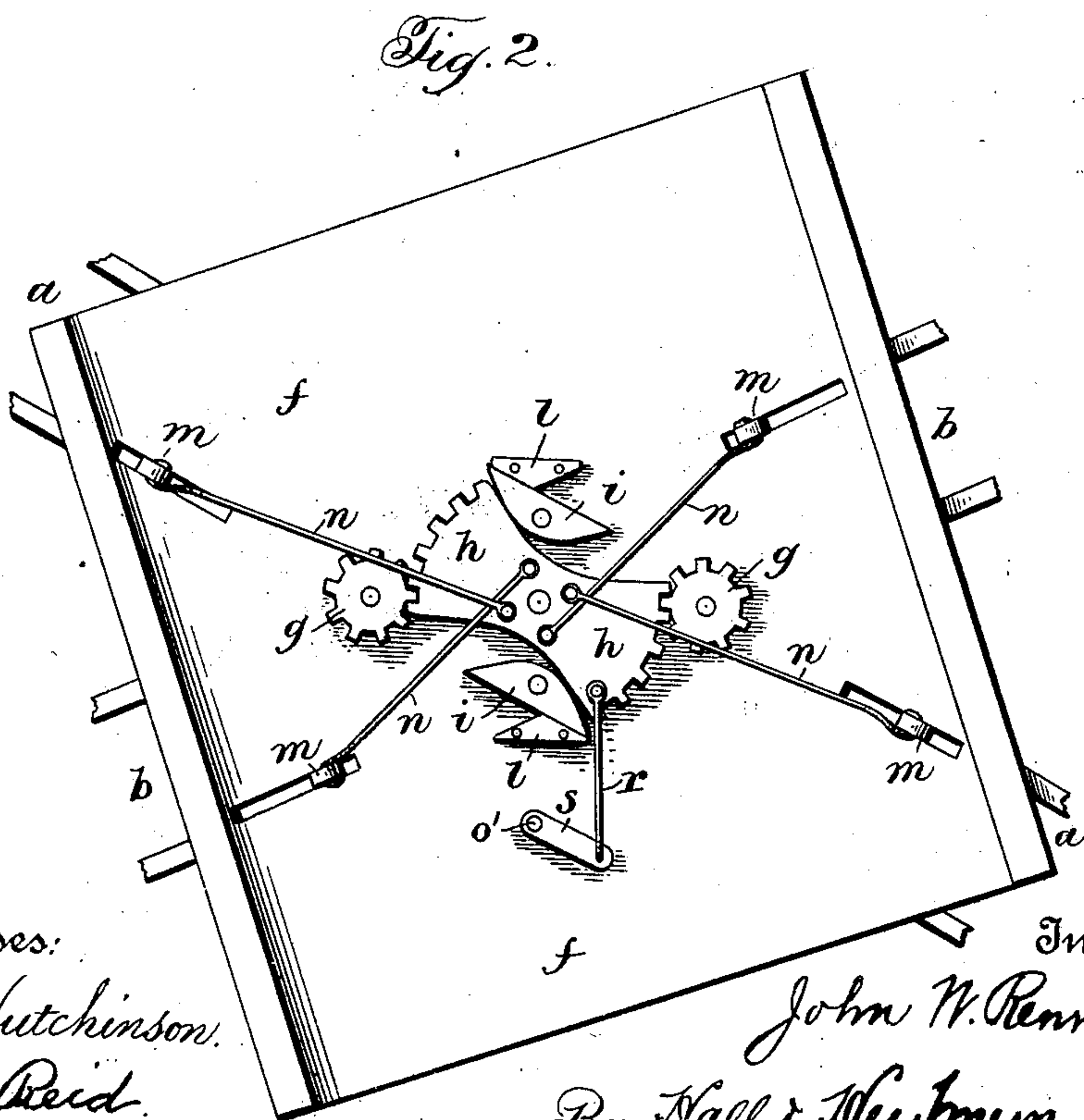
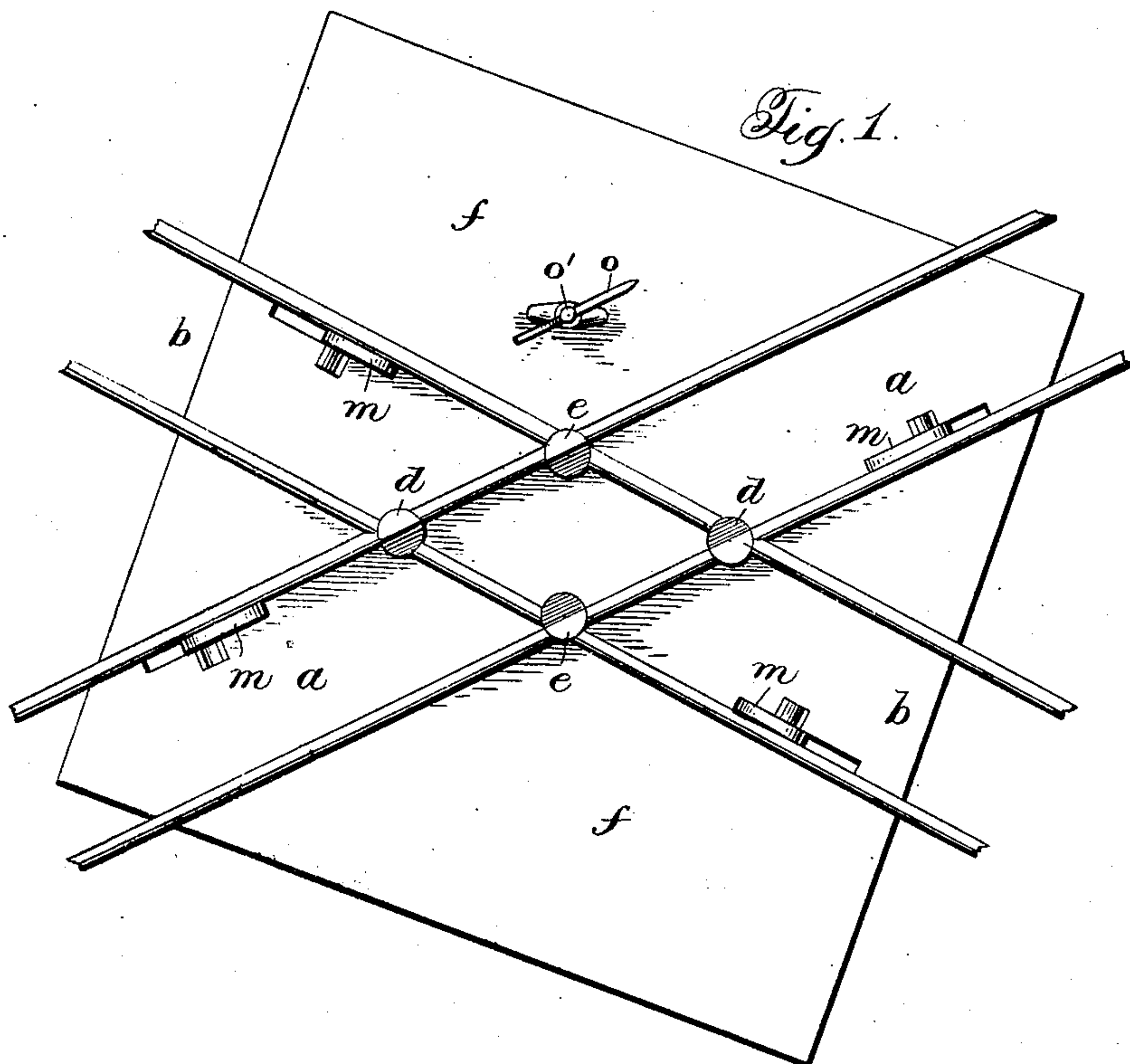


No. 828,054.

PATENTED AUG. 7, 1906.

J. W. RENNER.  
TRACK MECHANISM FOR RAILROAD CROSSINGS.  
APPLICATION FILED MAY 29, 1906.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN W. RENNER, OF CADILLAC, MICHIGAN, ASSIGNOR OF FOUR-FIFTHS  
TO SAMUEL S. THORPE, OF CADILLAC, MICHIGAN.

## TRACK MECHANISM FOR RAILROAD-CROSSINGS.

No. 828,054.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed May 29, 1906. Serial No. 319,322.

*To all whom it may concern:*

Be it known that I, JOHN W. RENNER, a citizen of the United States, residing in Cadillac, county of Wexford, State of Michigan, have invented certain new and useful Improvements in Track Mechanism for Railroad-Crossings, of which the following is a specification.

My invention relates to railroad-crossing track mechanism of the type in which the rails terminate short of the points of crossing to provide passage-ways for the flanges of the car-wheels, and a movable splice-bar or bridge element is located at each point of crossing common to two crossing-rails, which is designed to be automatically shifted to bridge the space between the ends of the rails at the time the rails are in service.

The present invention has particular reference to the mechanism for automatically shifting the bridge element as well as for shifting a signal arranged adjacent the crossing.

The object of the invention is to provide such mechanism which is particularly simple in construction and highly durable and efficient in use.

To this end the invention includes the combination and arrangement of parts to be described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate one embodiment of my invention, Figure 1 is a plan view of a railway-crossing equipped with bridge elements of the type referred to. Fig. 2 is a plan view from the under side, showing the mechanism for actuating the bridge elements and signal.

In the illustrated embodiment of my invention one set of tracks is indicated by *a* and the other by *b*, these tracks crossing each other in a manner to provide a so-called "diamond" crossing. The rails of each track are interrupted at the points of crossing, and at each of these points a movable bridge member is located which is common to two crossing-rails and is designed to be shifted to preserve the continuity of either. The bridge members *d*, located at the ends of the diamond, have a much greater movement or move through a larger arc than the bridge elements *e*, located at the sides of the diamond.

The invention contemplates novel mechanism for shifting all of the elements *d e* in unison upon the approach of the car along either track toward the crossing if the rails upon which the car moves at the time are interrupted at the crossing, the mechanism being actuated by the approaching car from an element located remote from the crossing. The major portion of the operating mechanism is preferably located beneath a suitable bed-plate *f*, upon which the crossing-rails are mounted.

Each of the bridge members is mounted to have an oscillating movement and to this end is provided with a depending pivot-pin, finding a bearing in the plate *f*. A gear or toothed segment *g* is secured to the pivot-pin of each element *d* below the plate *f*, and these gears intermesh with the tooth-peripheries of a double toothed segment *h*, pivotally mounted below the plate *f* substantially centrally of the crossing and designed to have an oscillating movement and therethrough oscillate the gears *g*, which in turn oscillate the bridge members *d*. Arms *i* are fixed to the depending pivot-pins of the bridge members *e* and are arranged within the paths of movement of the oscillating member *h*, so that they will be struck thereby during the movement of the same and oscillated to shift the members *e*. A suitable double stop *l* is associated with each member *i* to arrest the movement of the same when shifted by the element *h*, and thus prevent overthrow of the bridge members. In arresting the members *i* the double segment is also arrested and therethrough the gears *g* arrested.

To shift the segment *h* and, through the mechanism described, the bridge members *d e*, a pair of levers *m* is associated with each track, the members of each pair being arranged on opposite sides of the crossing. A link connection is interposed between the lower end of each lever and the segment *h*, the connection between the end of the link and the segment being made eccentrically of the latter and the links associated with companion levers being connected to the member *h* upon opposite sides of the pivot thereof. The upper ends of each pair of levers are adapted to project above the rail-bed in a position to be struck by a part of the car or car-wheels as the car approaches the cross-



ing when the bridge members associated with the track upon which the car is passing are not in register with the ends of the rails of said track. As the upper ends of the levers are depressed the lower ends thereof are shifted rearwardly, and through the links  $n$  elements  $h$  are oscillated and will shift elements  $g$   $i$  and therethrough shift the bridge members for the purpose stated.

10 If desired, a signal such as that designated by  $o$  may be arranged adjacent the crossing and may be actuated from the segment  $h$ . As herein illustrated, the signal  $o$  includes a vertical shaft  $o'$ , extending below the plate  $f$  and having an arm  $s$  secured thereto. Between this arm and the segment  $h$  a link  $r$  is interposed, so that as the segment is shifted the arm  $s$  will partake of a like movement.

The operation of my invention will be understood from the foregoing description, and it will be appreciated that many changes or modifications may be made from the particular exemplification illustrated and described without departing from the spirit and scope thereof.

I claim—

1. The combination of a railway-crossing having interrupted rails at crossing-points and movable bridge members thereat, of means for shifting said bridge members comprising, an oscillating member having opposite toothed ends, means for shifting said oscillating member, a toothed member associated with opposite bridge members and intermeshing with the toothed parts of the oscillating member, and oscillating arms associated with the other crossing members and arranged in the path of movement of said oscillating member, substantially as described.

40 2. In a railway-crossing having interrupted rails at the crossing-points and movable bridge members thereat, of means for shifting said bridge members comprising a double toothed segment, means for oscillating the same, a toothed member associated with opposite bridge members and intermeshing with the toothed portion of the segment, oscillating arms associated with the other bridge members and arranged in the path of movement of the oscillating segment to be shifted by the latter and stops arranged to arrest the movement of said arms, substantially as described.

55 3. In combination a railway-crossing having interrupted rails at the crossing-points and movable bridge-pieces thereat, of means for shifting said bridge-pieces comprising a double toothed segment centrally pivoted beneath the crossing, a gear associated with opposite bridge members and intermeshing with the toothed portion of the segment, an arm associated with each of the other bridge members arranged in the path of movement of the segment and designed to be struck by the sides of the latter in the movement of the

same, a double stop associated with each arm, a pair of operating-levers associated with each track and a link connection between the lower end of each of said levers and the double segment, substantially as described. 70

4. In combination a railway-crossing having interrupted rails at the crossing-points and movable bridge-pieces thereat, of means for shifting said bridge-pieces comprising a double toothed segment centrally pivoted beneath the crossing, a gear associated with opposite bridge members and intermeshing with the toothed portions of the segment, an arm associated with each of the other bridge members arranged in the path of movement of the segment and designed to be struck by the sides of the latter in the movement of the same, a double stop associated with each arm, a pair of operating-levers associated with each track and a link connection between the lower end of each of said levers and the double segment, an oscillating signal including a vertical shaft, an arm secured thereto and a link connection between the arm and the double segment, substantially as described. 80 85 90

5. In combination in a railway-crossing having interrupted rails at the crossing-points, a bed-plate and bridge-pieces at each of the crossing-points designed to oscillate and having depending pivot pins or stems journaled in the bed-plate, a double toothed segment pivoted to the bed-plate, and toothed members fixed to the pivot-pins of opposite bridge members and intermeshing with the double segment, arms fixed to the pivot-pins of the other bridge members located in the path of movement of the double segment to be shifted by the latter, a stop for limiting the movement of said arms and therethrough the movement of the segment, a pair of levers associated with each track and a link connection between each lever and the segment for shifting the segment as the levers are shifted, said levers having portions designed to be actuated by a car approaching the crossing, substantially as described. 95 100 105 110

6. The combination with a railway-crossing having interrupted rails at the crossing-points and movable bridge members thereat, of means for shifting said bridge members comprising an oscillating element having operative engagement with opposite bridge members to shift the latter, and means associated with the other bridge members lying in the path of movement of the oscillating element, and designed to be struck by the latter whereby said bridge members are oscillated, substantially as described. 115 120

7. The combination with a railway-crossing having interrupted rails at the crossing-points and movable bridge members thereat, of means to shift said bridge members comprising an oscillating element, and means associated with said members and projecting 125 130



into the path of movement of said element  
and disconnected therefrom designed to be  
engaged by said element when the latter is  
oscillated whereby said bridge members are  
5 shifted, substantially as described.

In testimony whereof I have hereunto  
signed my name, in the presence of two at-

testing witnesses, at Cadillac, county of Wex-  
ford, State of Michigan, this 17th day of May,  
1906.

JOHN W. RENNER.

Witnesses:

W. A. BOWEN,  
F. A. THOMAS.