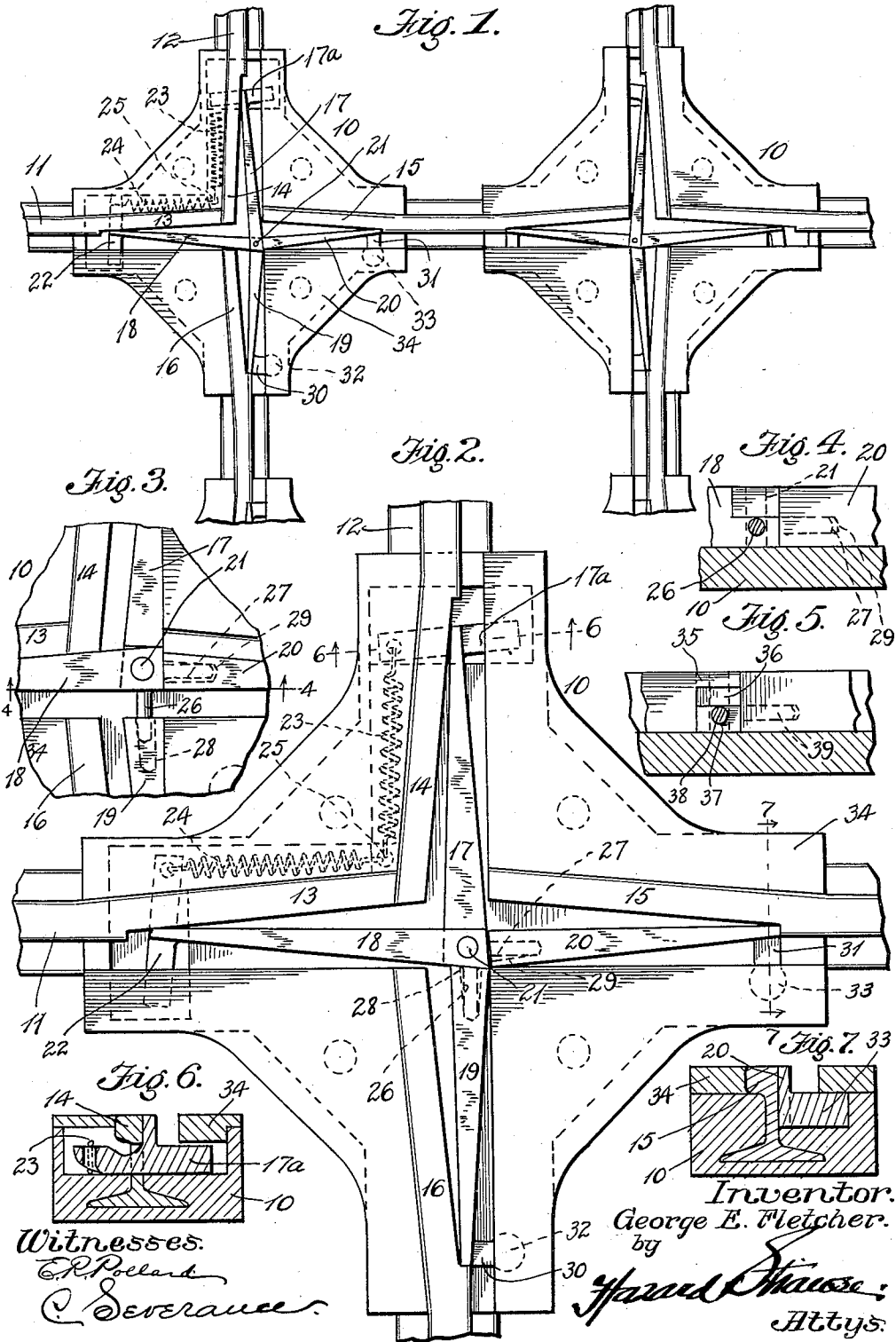


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RAILROAD CROSSING.
APPLICATION FILED JAN. 23, 1912.

1,064,202.

Patented June 10, 1913.



UNITED STATES PATENT OFFICE.

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RAILROAD-CROSSING.

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Specification of Letters Patent.

Patented June 10, 1913.

Application filed January 23, 1912. Serial No. 672,897.

To all whom it may concern:

Be it known that I, GEORGE E. FLETCHER, a citizen of the United States, residing at Anaheim, in the county of Orange and State of California, have invented new and useful Improvements in Railroad-Crossings, of which the following is a specification.

This invention relates to improvements in railroad crossing devices and has particular relation to the production of a track crossing suitable for use upon tracks, where the rails cross each other at right angles, or at angles less or greater than a right angle, as for instance where the ordinary railroad frog is generally employed.

It is an object of the invention to produce a crossing frog in which a continuous track support is afforded to the wheels of rolling stock in passing over crossings of any type.

It is also an object of the invention to provide a railroad crossing or frog in which movable pieces are employed, which are capable of adjusting themselves to the movement of wheels, in passing the crossing, so as to form a continuous track support for said wheels in either direction over said crossing.

In the accompanying drawing forming a part of this specification, Figure 1 is a top plan view of the crossing members of a railroad crossing upon one side of one of the tracks, the portions of the crossing on the other side being partially shown. Fig. 2 is an enlarged plan view of one of the said crossing members, the parts being in their normal position when the track is unoccupied by wheels. Fig. 3 is a detail plan view of a central portion of the mechanism shown in Fig. 2 but with the crossing points of the device moved back into alinement with one of the tracks for the passage of wheels over the same. Fig. 4 is a detail vertical sectional view taken upon the line 4—4 of Fig. 3. Fig. 5 is a similar detail sectional view but showing a slightly different form of connecting means joining the movable points of the crossing. Fig. 6 is a detail sectional view taken upon the line 6—6 of Fig. 2. Fig. 7 is a detail vertical sectional view taken upon the line 7—7 of Fig. 2.

The details and features of the invention will now be more particularly described, reference being had to the said drawing in which—

10 indicates a crossing member for the tracks of a railroad crossing, there being of

course four of such crossing members at each track crossing. It will be understood that the crossing devices, forming the subject matter of this invention, may be used where the crossing tracks pass over each other at right angles to each other or at greater or less angles, so as to make angular frogs of the crossing members, within the spirit of the invention, but for the purpose of illustrating the invention, the drawing merely shows the device as applied to the rails when they extend at right angles to each other.

A description of one crossing member will be sufficient for all of them and so the numbers will be applied merely as in describing one of them. Each of said crossing members is formed with track sections 11 and 12, which have offset abutting end portions 13 and 14 as clearly shown in Figs. 1 and 2. The continuation of the track 11 is also offset at 15, while the continuation of the track 12 is formed with an offset portion 16. These offset portions are arranged at a slight angle to the track proper and the offset side portions thereof are adapted to receive movable crossing points 17, 18, 19 and 20. All of said points when pressed back into position against the offset ends of the rails are adapted to complete the straight, inner guiding edges, of the rails as will be understood by reference to Fig. 3 of the drawing. Normally, they extend out of track forming position and the inner ends of the points 17 and 18 are preferably pivotally connected, a pivot pin 21 being passed vertically through their inner ends. The inner ends of said points are reduced in vertical height and arranged to lap one upon the other as shown in Fig. 4. The outer ends of said crossing points 17 and 18 are formed with transverse guide bars 17^a and 22. These bars project below the head of the rail and extend beneath the said head portion of the rail and a sufficient distance outside of the rail to be connected with springs 23 and 24. The said springs extend toward the abutting ends of the rail portions 13 and 14, where they are connected to a vertical pin 25, or in any other similar manner secured to a rigid part of the mechanism. The action of the springs is to draw the bars 17^a and 22 inwardly and tend to force the movable points 17 and 18 to the positions shown in Figs. 1 and 2 of the drawing. The said points 17 and 18 are

adapted to be moved against the action of the said springs by means of the points 19 and 20 which have a movable engagement with the ends of the opposite points 17 and 18 respectively. Such movable engagement is usually formed by providing dowel pins 26 and 27 carried by the points 17 and 18 respectively and loosely engaging sockets 28 and 29 formed in the ends of the points 19 and 20. The outer ends of the points 19 and 20 have laterally projecting depending arms 30 and 31, which are provided with rounded heads 32 and 33 upon their outer ends, which fit into correspondingly shaped sockets formed in the adjacent part of the crossing mechanism. Top corner plates 34 fit upon the crossing in the four corners thereof, so as to cover and hold in place the said rounded heads 32 and 33 and also the bars 21 and 22 of the points 17 and 18. The structure is such that the springs tend to force all of the points to the position shown in Figs. 1 and 2.

When flanged wheels approach the crossing from one direction, the flanges will engage the points 18 for instance, and force the same against the adjacent offset end 13 of the rail 11. The point 20 will be carried with it by reason of the dowel pin 27 and the straight inner edge of the rail 11 will be completed by said points, affording a continuous rail support for the wheels over the space of the crossing. If the wheels approach the crossing from the opposite direction, the parts will be carried to the same position as shown in Fig. 3, by the flanges engaging the point 20. As soon as the wheels pass the crossing, the springs will return the points to the position shown in Figs. 1 and 2. If wheels approach the crossing upon the rails 12, the same action will take place, either by the engagement of the flanges with the point 17 or with the point 19, according to the direction in which the wheels are moving.

It will be observed that gap will be left between one of the points, either 19 or 20, for the passage of the wheels as indicated in Fig. 3, and in accordance with the movement of the wheels. The flanges are thus always accommodated by the movement of the parts, and at the same time a continuous support without any gaps is afforded for the supporting of the wheels. Instead

of placing the dowels 26 and 27 upon the ends of the points 17 and 18 themselves, the pivoted portions of said points may be made shallower as shown at 35 and 36 in Fig. 5 and the pivot pin passes through these portions and through a block 37 immediately below, the said block being provided with dowel pins 38 and 39 for engaging the adjacent ends of the points 19 and 20, without departing from the spirit of the invention. It will be understood also that to adapt the mechanism to rails which extend at greater or less angles than a right angle to each other, it will be merely necessary to adapt the pins to the angular space between the rails, the structure and action of the same being practically as described above.

What I claim is:

1. A railroad crossing frog comprising a base having laterally inclined rail points extending thereon affording offset recesses at the sides thereof, spring actuated crossing points adapted to fit against some of said rails, loosely connected pivoted points co-operating therewith and springs for normally forcing the points out of their seats, against the inclined portions of the rails.

2. A railroad crossing comprising a base adapted to receive the head portions of the rails meeting at the crossing, crossing points fitting against said rails, some of said points having transverse bars arranged below the heads of the rails, springs connected with said bars tending to force the points away from the rails, a pivot pin connecting the inner ends of said points, the said points also having dowel pins projecting therefrom, some of said points also having pivot projections and being provided at their inner ends with sockets for receiving said dowel pins.

3. In a railroad crossing, comprising rails forming a crossing, offsets in said rails at their junctions, a pair of movable rail points pivoted at their intersections adapted to fit said offsets, and resilient means for operating said rail points.

In witness that I claim the foregoing I have hereunto subscribed my name this 15th day of January, 1912.

GEORGE E. FLETCHER.

Witnesses:

EDMUND A. STRAUSE,
EARLE R. POLLARD.