G. C. AND H. W. MELROSE.
SILENT RAILWAY CROSSING.
APPLICATION FILED MAY 16, 1919.

1,337,527.

Patented Apr. 20, 1920.
3 SHEETS—SHEET 1.

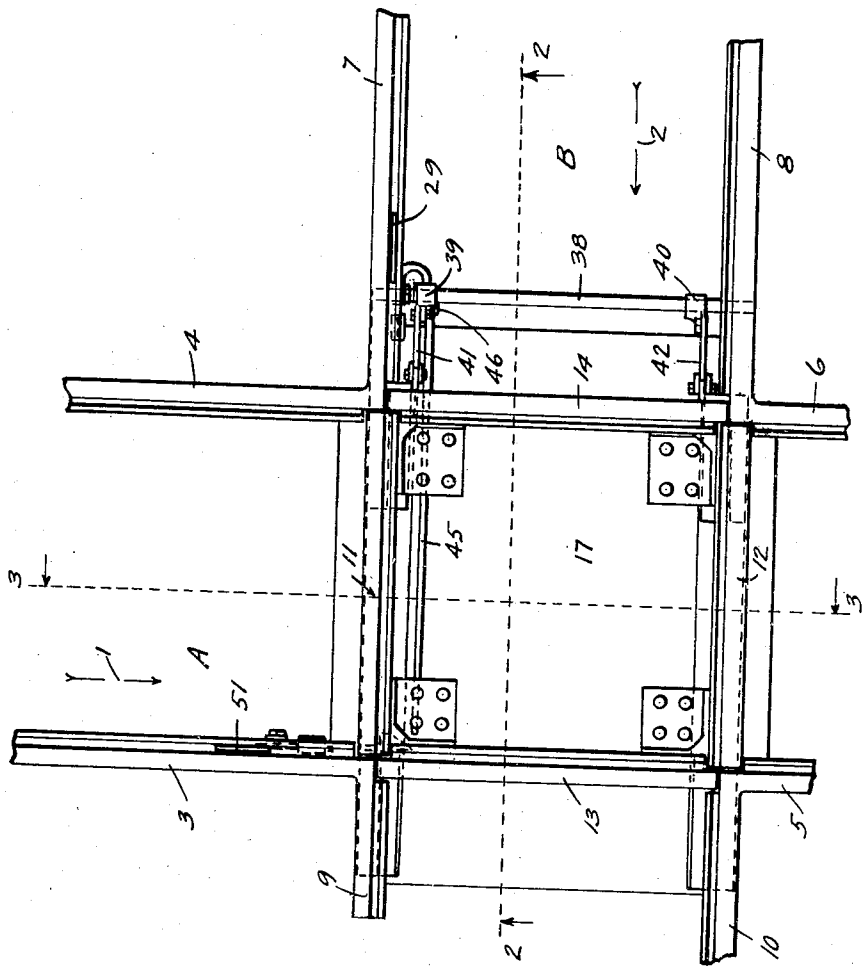

Fig. 1.

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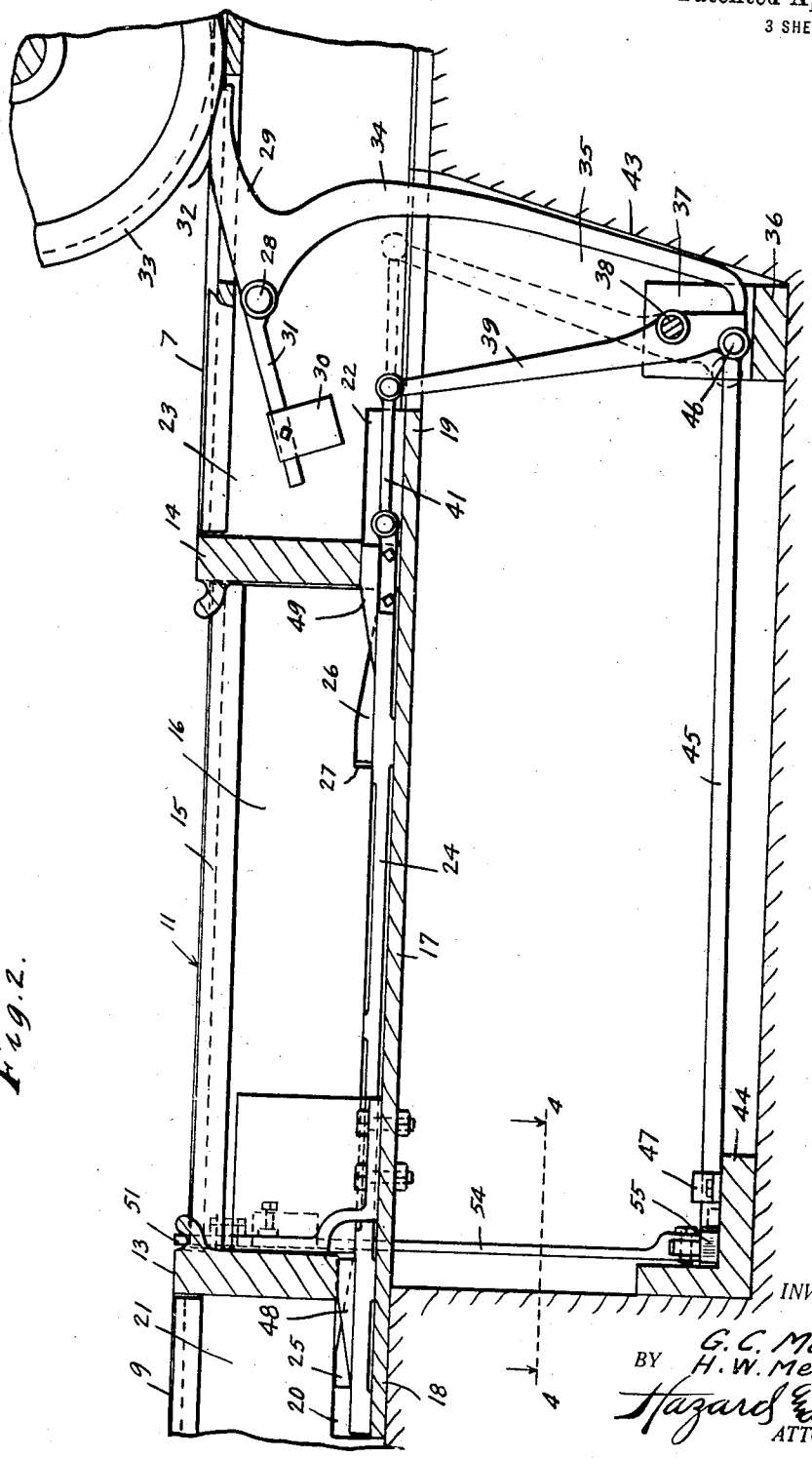

Fig. 2.

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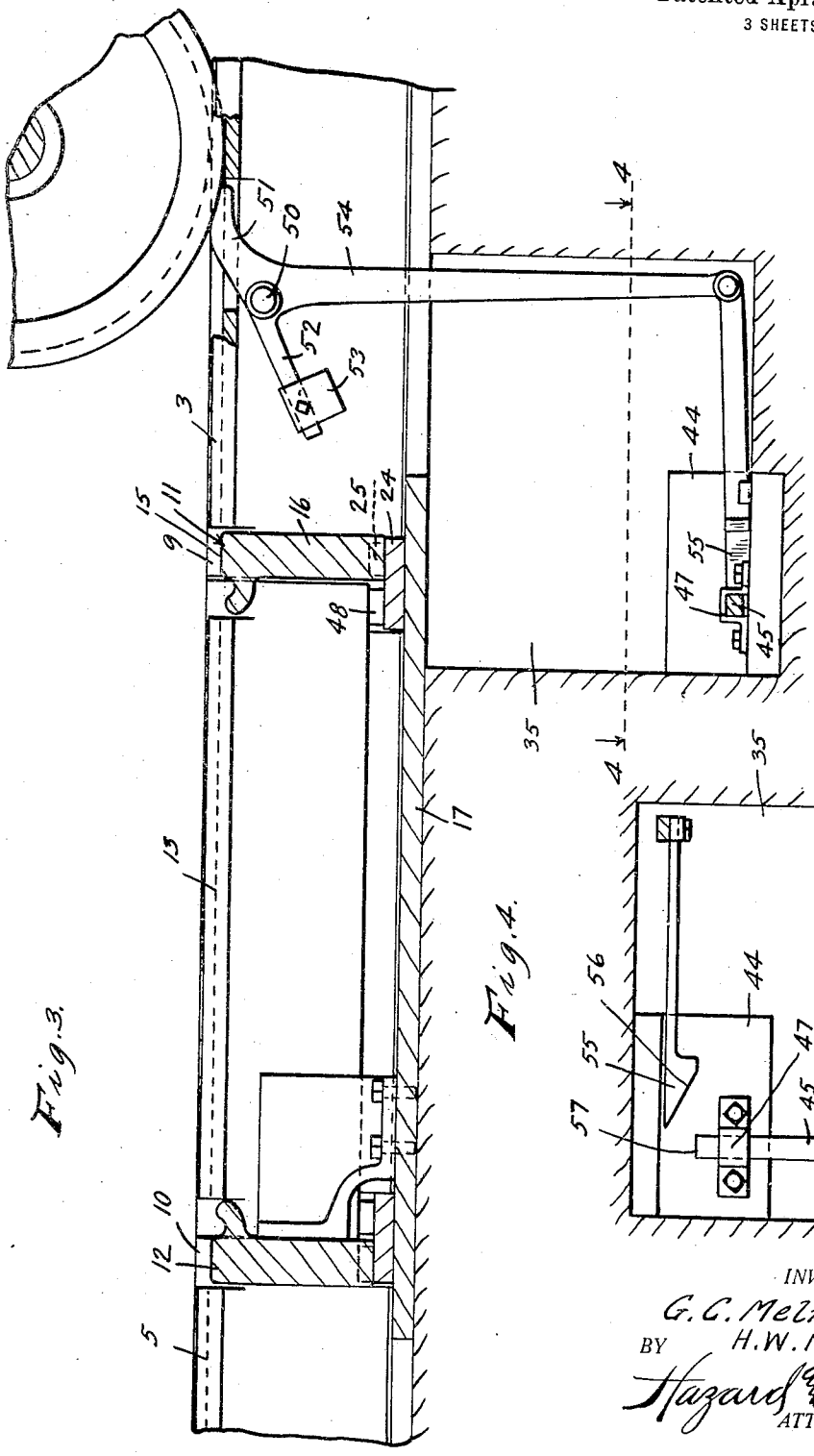

Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE C. MELROSE, OF REDONDO BEACH, AND HERMAN W. MELROSE, OF GLENDALE, CALIFORNIA.

SILENT RAILWAY-CROSSING.

1,337,527. Specification of Letters Patent. Patented Apr. 20, 1920.

Application filed May 16, 1919. Serial No. 297,634.

To all whom it may concern:

Be it known that we, GEORGE C. MELROSE and HERMAN W. MELROSE, citizens of the United States, residing at Redondo Beach and Glendale, in the county of Los Angeles and State of California, have invented new and useful Improvements in Silent Railway-Crossings, of which the following is a specification.

Our object is to make a silent railway crossing and our invention consists of the novel features herein shown, described and claimed.

Figure 1 is a top plan view of a silent railway crossing embodying the principles of our invention, the railway track being broken away around the crossing.

Fig. 2 is an enlarged vertical longitudinal sectional detail on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged vertical longitudinal sectional detail on the line 3—3 of Fig. 1, Fig. 2 being longitudinal of one track and Fig. 3 being longitudinal of the other track.

Fig. 4 is a horizontal sectional detail on the lines 4—4 of Figs. 2 and 3.

Referring to Fig. 1, the crossing shown is adapted for use where the cars run only one way upon each track and, upon the tracks as shown, the cars are to run in the directions indicated by the arrows 1 and 2. The rails 3 and 4 on one side of the crossing and the rails 5 and 6 on the other side of the crossing form the track A, the rails 7 and 8 on one side of the crossing at right angles to the rails 3 and 4 and the rails 9 and 10 at the other side of the crossing form the other track B.

The movable rail sections 11 and 12 crosswise between the track A form a part of the track B, when a car is passing the crossing on the track B in the direction indicated by the arrow 2, and the movable rail sections 13 and 14 between the rails of the track B form a part of the track A, when a car is passing on the track A in the direction indicated by the arrow 1. When a car is passing the crossing on the track A the movable rail sections 13 and 14 are up in position to support the car wheels and the movable sections 11 and 12 are down out of the way of the car wheels, and likewise when a car is passing on the track B the movable rail sections 11 and 12 are up in position to support the car wheels and the movable rail sections 13 and 14 are down out of the way.

Referring to Fig. 2, the movable rail section 11 consists of a ball or tread 15 and a web 16. A base 17 connects the bases 18 and 19 of the rails 7 and 9. A notch 20 is formed from the end of the web 21 of the rail 9 just above the base 18 and a notch 22 is formed from the end of the web 23 of the rail 7 just above the base 19.

A shifting bar 24 rests upon the base 17 and slides back and forth in the notches 20 and 22. The web 16 normally rests upon the shifting bar 24. A wedge 25 is fixed upon the shifting bar 24 in the notch 20 and a similar wedge 26 is fixed upon the shifting bar 24 in a notch 27 in the lower edge of the web 16.

The wedges 25 and 26 point in the same direction so that when the shifting bar 24 is moved to the left the rail section 11 is raised.

In a like manner the movable rail section 12 is mounted to be raised and lowered. A stub shaft 28 is fixed through the web of the rail 7. An actuator 29 is fixed upon the stub rail 28 inside of the rail 7. A counterbalance weight 30 is fixed upon an arm 31 extending in the opposite direction from the actuator 29 relative to the stub shaft 28 and the actuator 29 has a bearing face 32 normally in position to be engaged by a car wheel flange 33 so that the flange will depress the actuator 29.

An arm 34 extends downwardly from the actuator 29. A chamber 35 is formed below the crossing. A bar 36 is located in the bottom of the chamber 35 and has bearings 37 extending upwardly from its ends. A rock shaft 38 is mounted in the bearings 37. Levers 39 and 40 are fixed upon the rock shaft 38 and links 41 and 42 connect the levers 39 and 40 to the shifting bars 24 for operating the movable rail sections 11 and 12, 13 and 14.

The lower end of the arm 34 engages the lower end of the lever 39 so that when the actuator 29 is operated by the car wheel flange 33 the rock shaft 38 is operated to move the shifting bars 24 to raise the movable rail sections 11 and 12 into a position to support the car wheels over the crossing.

A bank 43 of the chamber 35 forms a stop to limit the swing of the arm 34 backwardly

and to limit the swing of the actuator 29 upwardly under the influence of the weight 30 and when the car wheel passes the actuator the weight 30 swings the actuator back to its normal position.

A base 44 is mounted in the chamber 35. A connecting rod 45 is connected to the lower end of the lever 41 by a pin 46 and the opposite end of the connecting rod is slidingly mounted upon the base 44 through a bearing 47.

Notches are formed from the lower edges of the movable rail sections 13 and 14 and wedges 48 and 49 are fixed upon the shifting bars 24, said wedges being pointed in the opposite directions from the wedges 25 and 26 and located so that when the shifting bars 24 operate the movable rail sections 13 and 14 go up as the movable rail sections 11 and 12 go down and vice versa.

Referring to Fig. 3, a stub shaft 50 is fixed through the web of the rail 3, an actuator 51 is pivotally mounted upon the stub shaft, an arm 52 extends from the actuator 51 beyond the shaft 50, a counter balance weight 53 is fixed upon the arm 52, and an arm 54 extends downwardly from the actuator 51. A wedge shaped cam 55 slides upon the base 44 and is connected to the lower end of the arm 54 so that when the actuator 29 has been operated to raise the movable rail sections 11 and 12 and lower the movable rail sections 13 and 14, then the passage of a car upon the track A will cause a car wheel flange to engage the actuator 51 and move the cam 55 to bring the cam face 56 into engagement with the face 57 of the connecting rod 45 and to push the connecting rod backwardly to raise the movable rail sections 13 and 14 and lower the movable rail sections 11 and 12 as required to allow the car to pass the crossing upon the track A.

Thus we have produced a silent railway crossing having few simple parts easily made and easily assembled and not likely to get out of order.

Various changes may be made without departing from the spirit of our invention as claimed.

We claim:

1. A silent railway crossing comprising, in combination with rigid track members forming the angles of the crossing, of vertically movable rail sections adapted to match with the crossing angles and means whereby the approach of a car will raise the rail sections of its track and lower the rail sections of the cross track, and means whereby the approach of the car on the other track will reverse the operation of the rail sections.

2. In a silent railway crossing, movable rail sections, shifting bars mounted under the movable rail sections, wedges mounted upon the shifting bars to engage the movable rail sections, an actuator pivotally mounted, and connections between the actuator and the shifting bars whereby the shifting bars are operated to raise or lower the movable rail sections.

In testimony whereof we have signed our names to this specification.

GEORGE C. MELROSE.
HERMAN W. MELROSE.