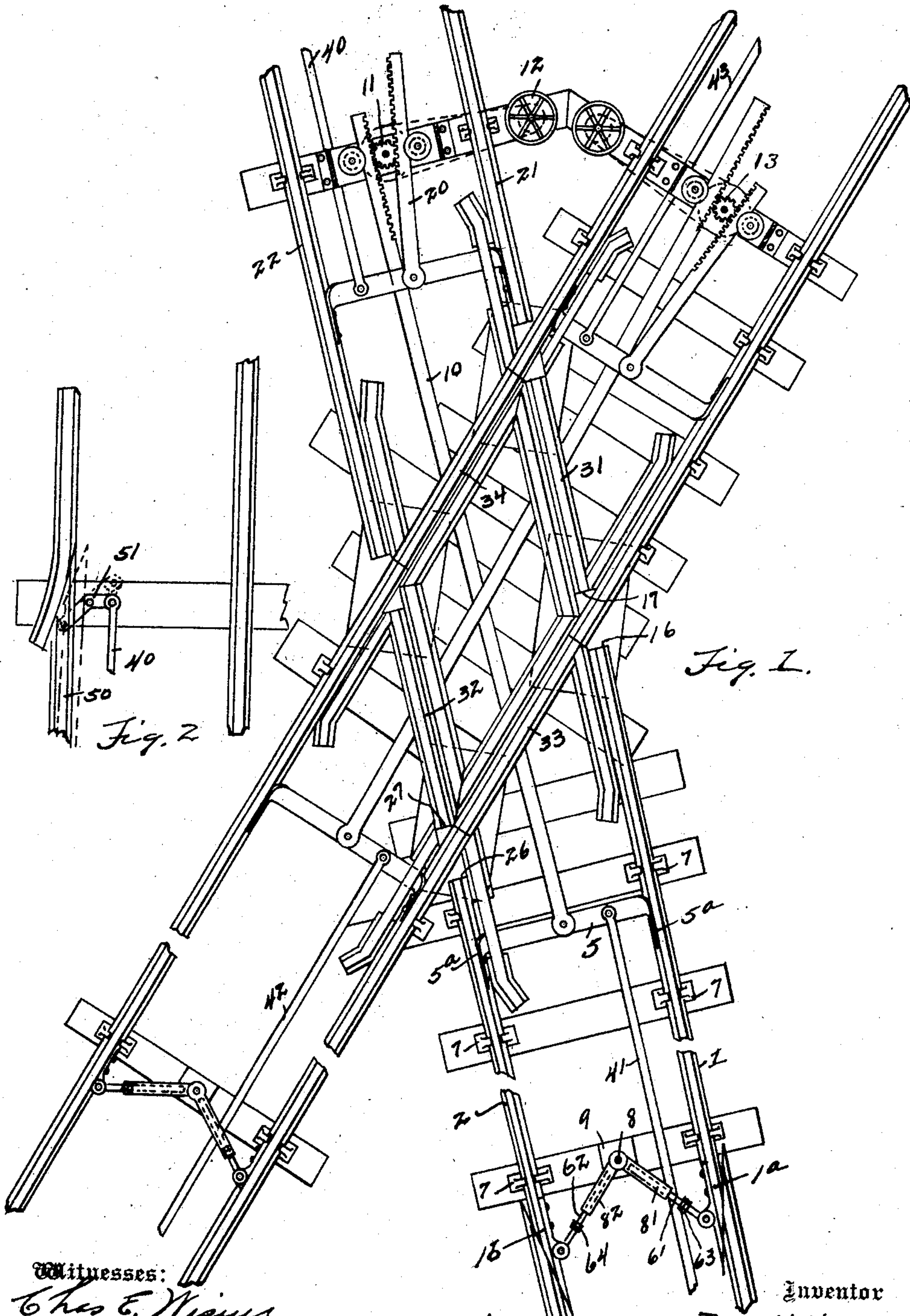


J. H. HAND.
RAILROAD CROSSING.
APPLICATION FILED APR. 23, 1908.

901,292.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.



Witnesses:
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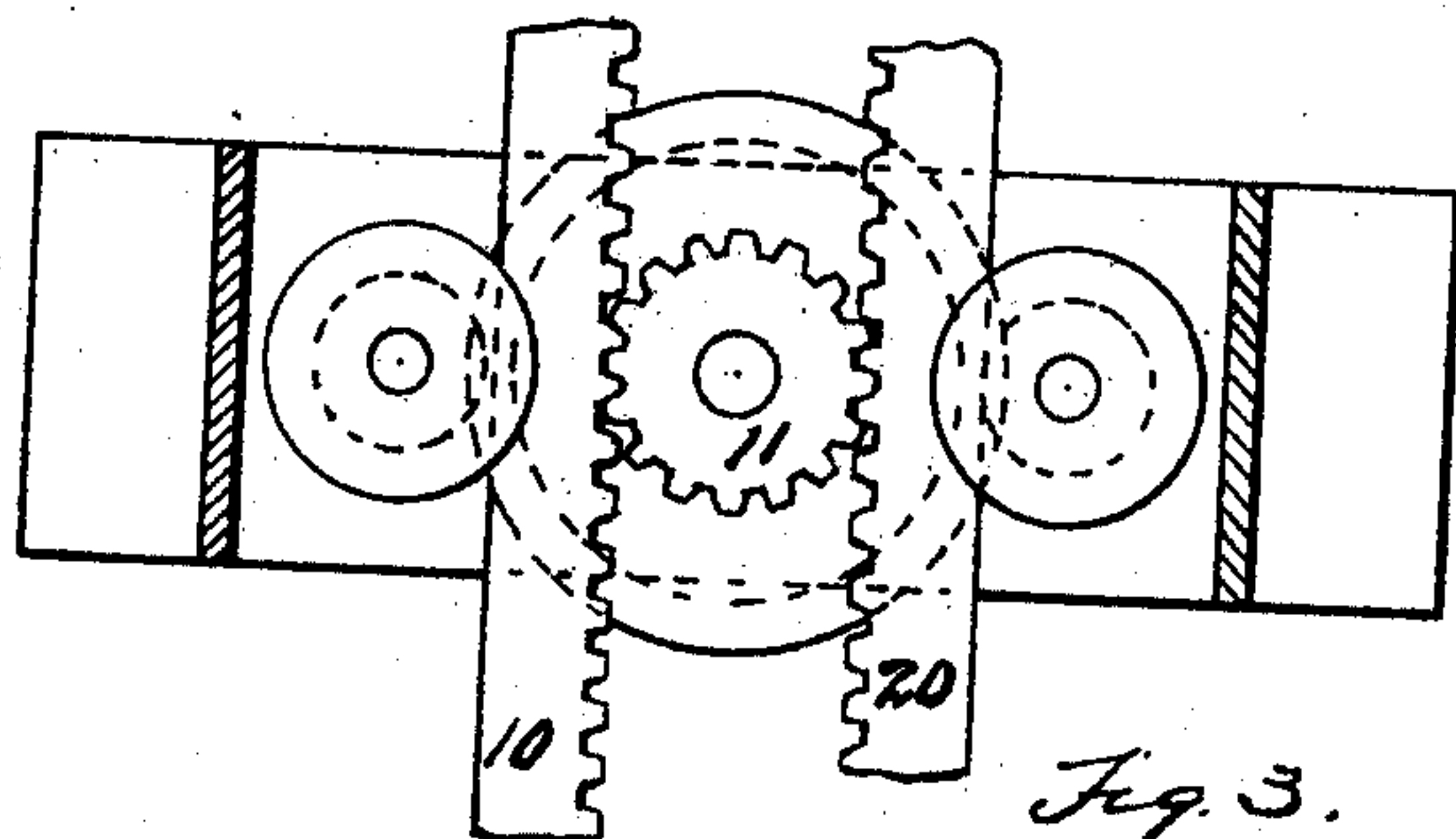


Fig. 3.

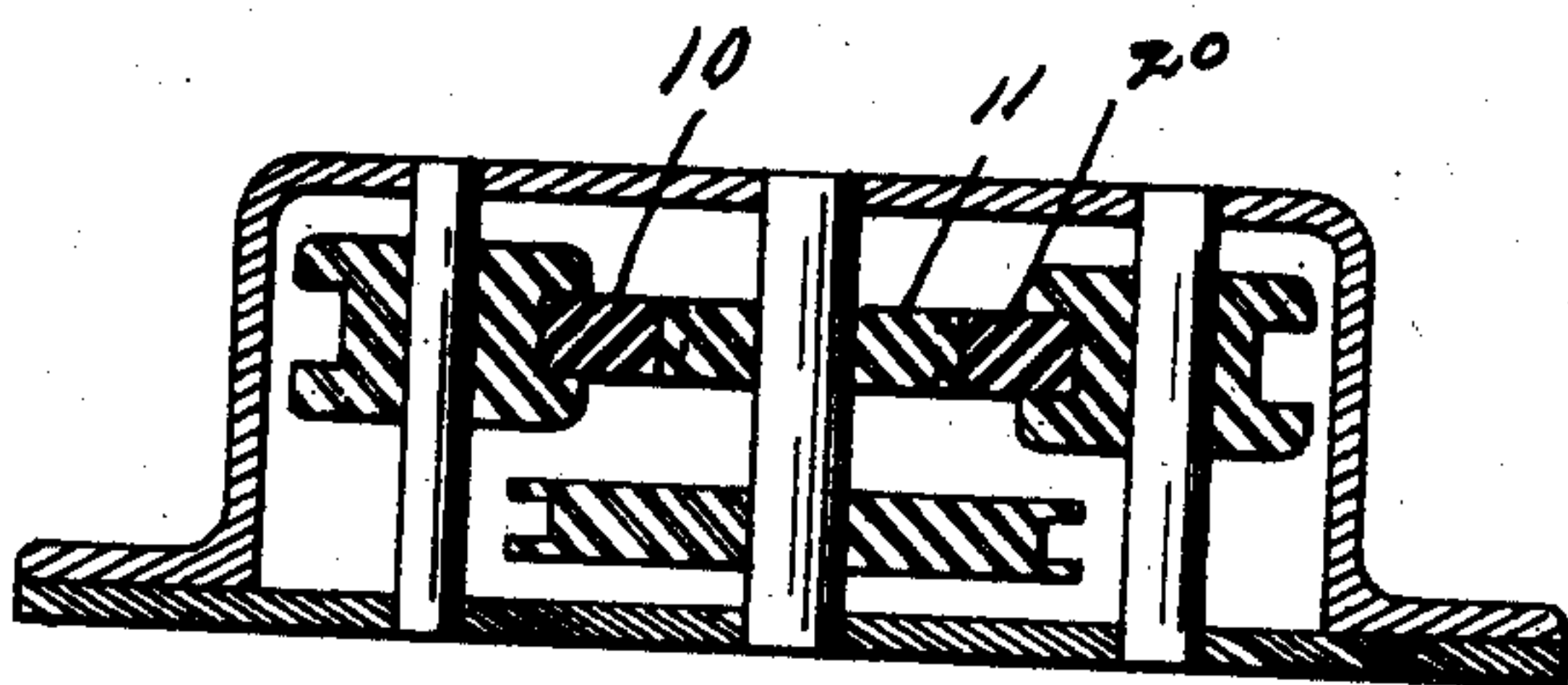


Fig. 4.

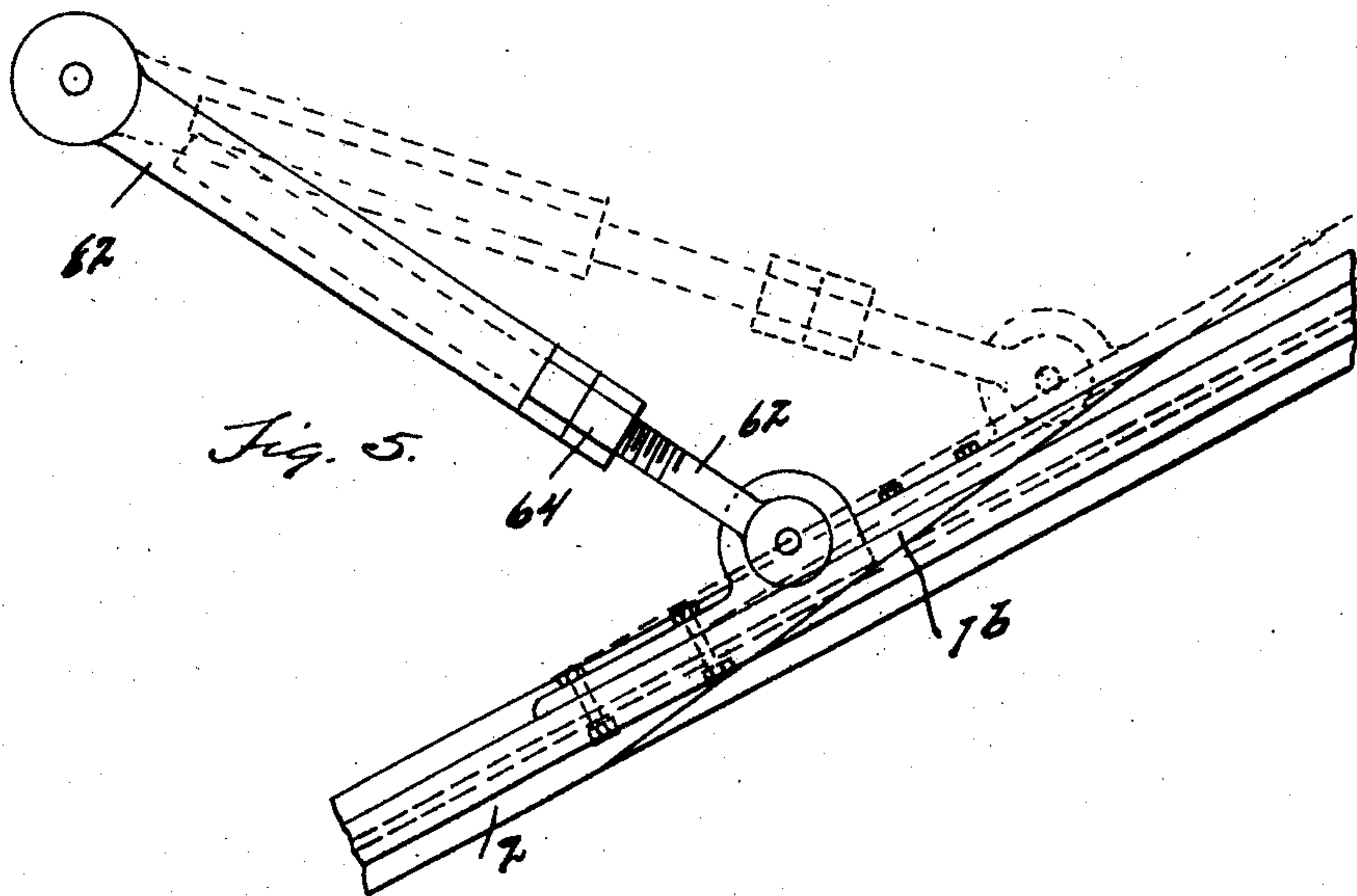


Fig. 5.

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UNITED STATES PATENT OFFICE.

JESSE H. HAND, OF ANN ARBOR, MICHIGAN, ASSIGNOR OF ONE-THIRD TO JOHN L. DUFFY AND ONE-THIRD TO ALFRED J. PAUL, OF ANN ARBOR, MICHIGAN.

RAILROAD-CROSSING.

No. 901,292.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed April 23, 1908. Serial No. 428,791.

To all whom it may concern:

Be it known that I, JESSE H. HAND, a citizen of the United States, residing at Ann Arbor, county of Washtenaw, State of Michigan, have invented a certain new and useful Improvement in Railroad-Crossings, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to railroad crossings.

It has for its object an improved crossing in which there is an arrangement for the temporary production of a continuous track along that line which is intended to be immediately used, such continuous track being made discontinuous and spread when the companion crossing is made continuous. This continuous track is produced by shifting the line rails longitudinally to bring the ends of the shifting line rails into contact with the fixed short pieces of rail that form part of the crossing; the connection between the shifting rails at the point distant from the crossing and the main line rails is made by scarfing the ends of both the shifting rails and the fixed rails in constant engagement with the scarfed portion of the continuous rail. Provision is also made to connect the movable part of the line rails at the crossing with a distant derailing device, so that whenever the movable rails are shifted to disengage, the derailer is brought into derailing condition.

In the drawings:—Figure 1, is a plan view of a crossing. Fig. 2, is a plan view of a derailer. Fig. 3, is a detail on an enlarged scale of the connection between the actuating rods of two movable sections. Fig. 4, is a sectional elevation of the mechanism shown in Fig. 3. Fig. 5, is a detail of the spreading arms used to spread the scarfed off ends of the movable section of rail.

1 and 2, and 21 and 22, indicate the movable rails of two sections of a main line which are arranged to connect with the short cross rails 31 and 32 of the crossing. 3 and 4, and 23 and 24, indicate the movable rails of the second main track, which are used to connect with the short cross rails 33 and 34. The cross rails 31 and 32, and 33 and 34, are all shorter than the length across the main track, and enough shorter to allow free clear-

ance for the flanges of wheels running over the main tracks; these cross rails may be arranged at any suitable angle to each other. All the movable sections are similar in construction, and each is arranged to be actuated by a draft rod from any suitable location, either from a station at some distance, or from a switch stand close at hand.

The shifting rails 1 and 2 are secured firmly to a cross bar 5 which is located as near as it conveniently can be to the crossing proper. Between the points 5^a where the cross bar joins the main rails 1 and 2 and the scarfed off ends 1^a and 1^b, the rails 1 and 2 have some freedom of side movement over the surface of the chairs 7, by which they are held to the ties. Near the extreme scarfed off ends the rails 1 and 2 are connected by arms 81 and 82 which are pivoted to a stud 8 that rises from a cross plate 9; the arms 81 and 82 spread from the stud 8; each of the arms 81 and 82 has a tubular member and has telescoped within it a sliding member 61 and 62, which sliding member is pivotally connected to the main rail near the scarfed off point. Upon the member 61 is a stop 63, which prevents the member 61 from sliding into the member 81 beyond the proper distance to properly spread the end of the rail, and the telescoping members of this arm become a rigidly engaging brace to lock the scarfed ends of the fixed rail and the sliding rail together when the sliding rail has been shifted to bring the engaging ends 16 and 26 into engagement with the ends 17 and 27 of the fixed section of the crossing. The cross bar 5 is connected by a reach rod 10 to an actuating pinion 11 that is suitably actuated from any suitable motor 12. A preferred way of connecting the shifting reach rod 10 to the actuating wheel 11 is by means of a rack on the rod 10 and a pinion 11; the bar connecting shifting rails 21 and 22, is shifted by reach rod 20, which engages with the same pinion 11. The pinion 11 is actuated independently of the pinion 13, which shifts the similar members of the second main line, one set of shifting rails, or one pair of shifting rails being arranged to close against the cross rails 31 and 32, after the other pair of shifting rails have been actuated, or partly actuated.

Simultaneously with the shifting of either of the movable sections of both main lines derailing reach rods 40 and 41, or 42 and 43

are actuated to bring into action suitable derailing devices at a distant point. The derailing devices are scarfed off rails 50 arranged to be shifted sidewise of the longitudinal movement of the rod 40, and the oscillation of a lever 51, which engages the rail 50, and moves the end of it in a direction across the main track, opening a derailing gap in the ordinary way.

10 What I claim is:—

1. In a railroad crossing, in combination with short sections in fixed relation to the crossing main tracks, sections adapted to shift endwise into contact with the short sections, said shifting sections having scarfed ends adapted to engage the fixed rails of the main line, and an adjustable spreading lever by whose rigidity the scarfed ends are held in contact during the shifting operation, substantially as described.

2. In a railroad crossing, in combination with a fixed main line section, a movable rail section having scarfed ends adapted to engage the same, means for imparting lengthwise shifting movement thereto, whereby they are moved into contact with and away from said fixed section, a spreading lever capable of adjustment as to its path of travel, whereby it rigidly engages with uniform degree of

pressure against the point of contact of the fixed section and the movable section, and means actuated from the same source as the movable section for simultaneously imparting actuation thereto, substantially as described.

3. In a railroad crossing, in combination with shifting rails provided with scarfed off ends adapted to remain in alinement with fixed main rails also provided with scarfed off ends, a spreading lever having telescoping members which are adjustable to produce a rigid member simultaneously with the contact of the fixed crossing rail and the shifting section of the main line, substantially as described.

4. In combination with a fixed main rail, a shifting rail provided with a scarfed end and an abutting end adapted to shift lengthwise of its axis with abutting engagement with the main rail, and adjustable means for maintaining the scarfed ends rigidly in engagement.

In testimony whereof, I sign this specification in the presence of two witnesses.

JESSE H. HAND.

Witnesses:

VIRGINIA C. SPRATT,
ALECIA TOWNSEND.