

No. 629,955.

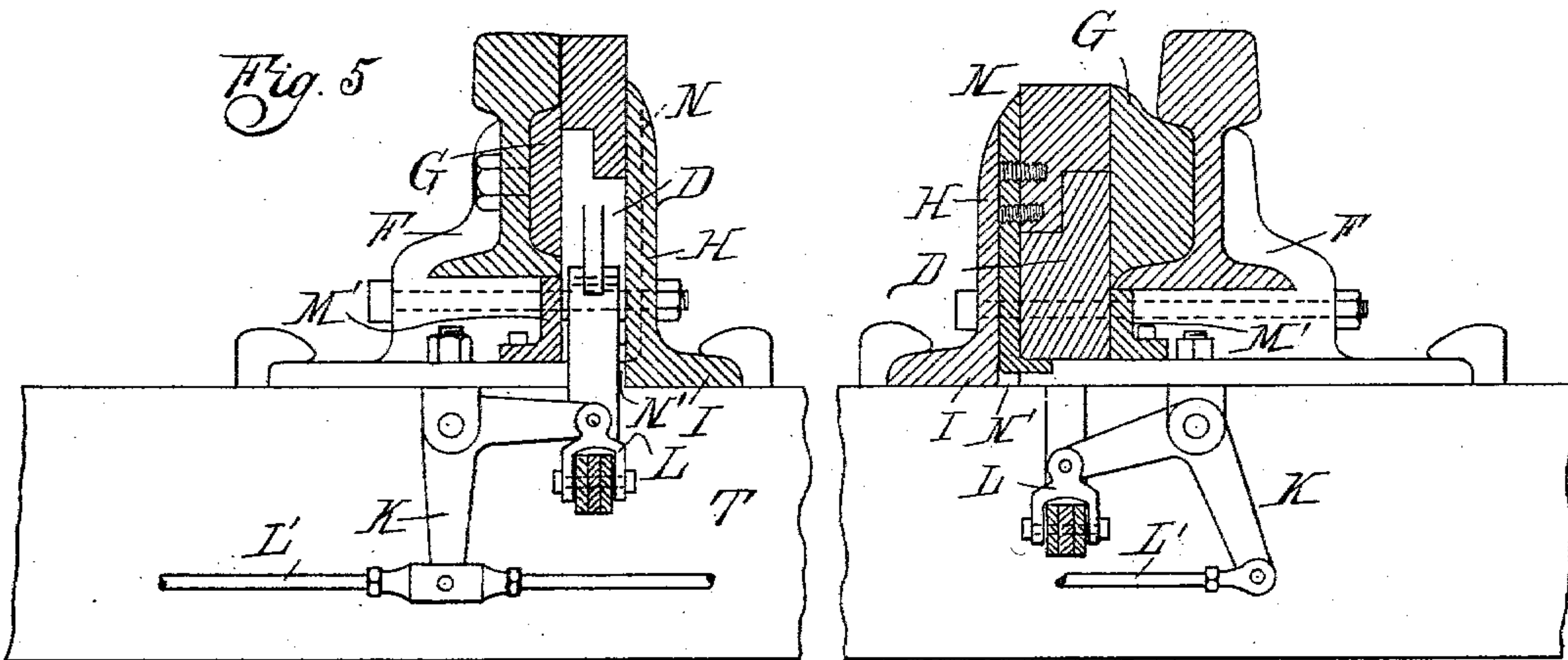
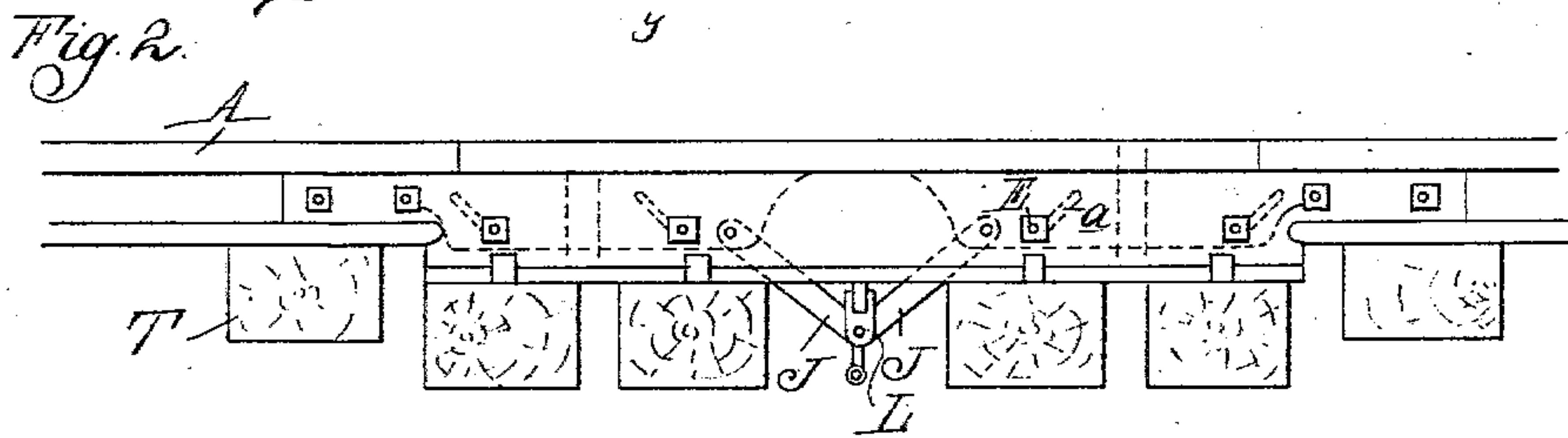
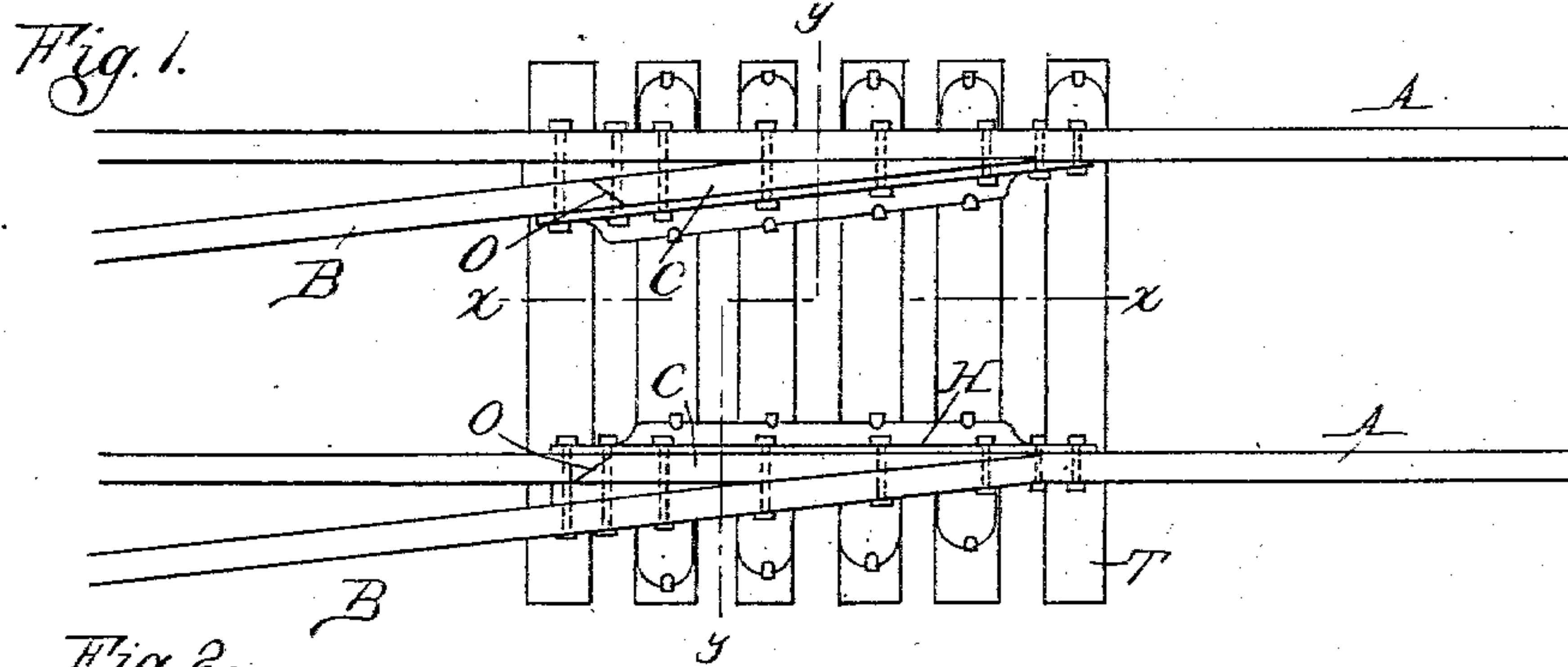
Patented Aug. 1, 1899.

T. COPEMAN.
RAILWAY SWITCH.

(Application filed June 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

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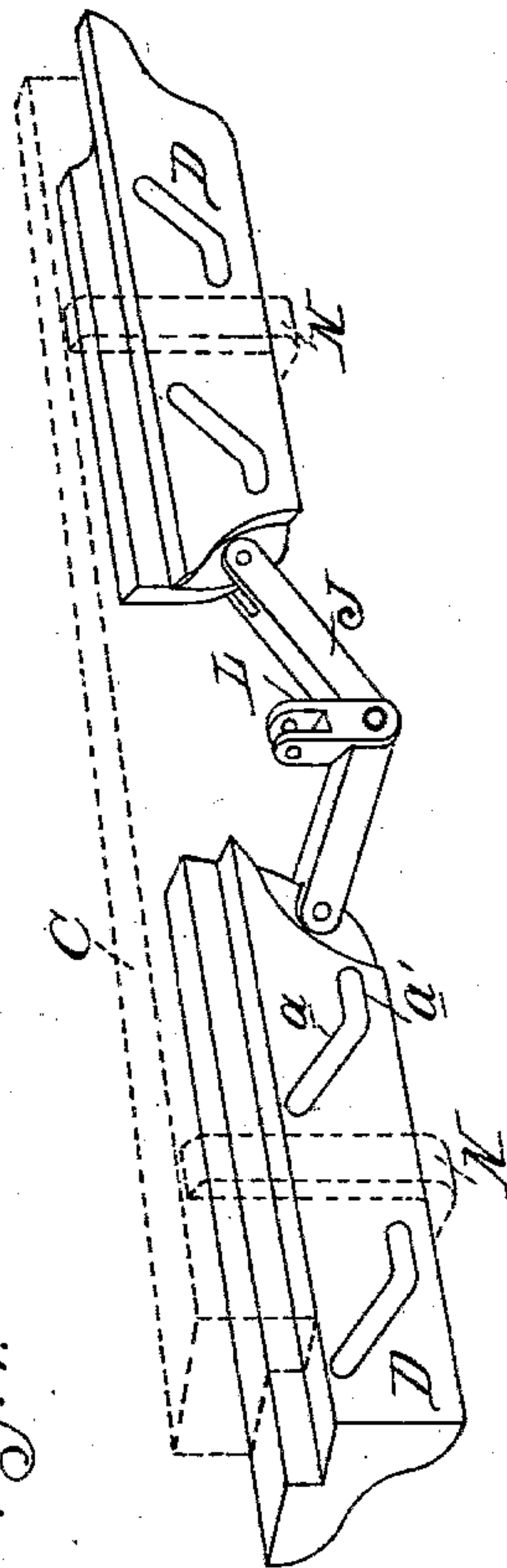
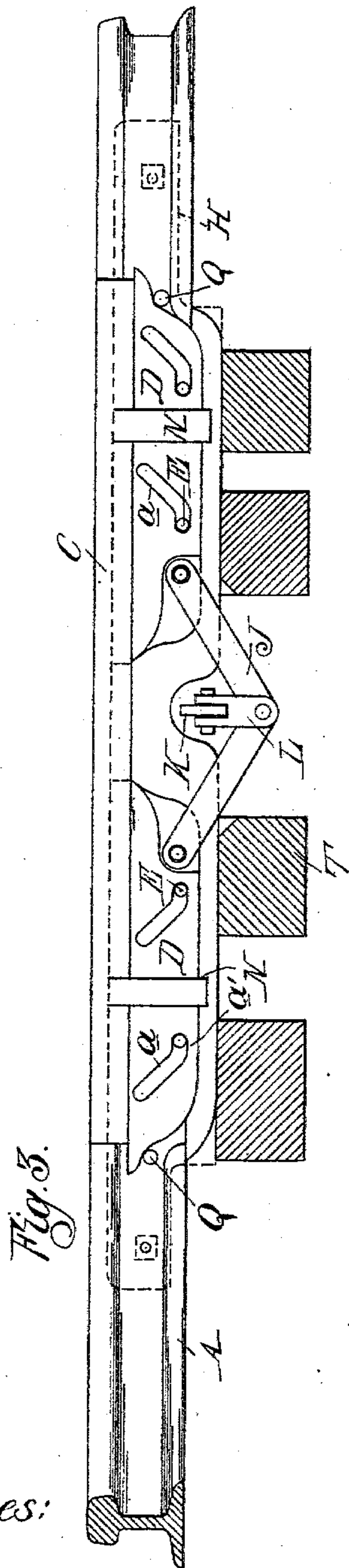
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RAILWAY SWITCH.

(Application filed June 5, 1899.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

THORN COPEMAN, OF EDGAR MILLS, CANADA, ASSIGNOR OF ONE-THIRD
TO JOSEPH WAITE, OF SAME PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 629,955, dated August 1, 1899.

Application filed June 5, 1899. Serial No. 719,509. (No model.)

To all whom it may concern:

Be it known that I, THORN COPEMAN, a citizen of Canada, residing at Edgar Mills, in the county of Essex and Province of Ontario, Canada, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a railway-switch in which there are switch-points supported vertically movable, one being depressed while the other is at the level of the fixed rails; and the invention consists in the peculiar construction, arrangement, and operation of these
15 switch-points, in combination with sliding bearing-blocks adapted to firmly support these points and carry them up and down in vertical guide-bearings, all as more fully
20 hereinafter described and shown in the accompanying drawings, in which—

Figure 1 is a diagram plan view of the switch. Fig. 2 is an elevation taken in the vertical plane on line xx , Fig. 1. Fig. 3 is a
25 similar elevation with the cover-plate removed. Fig. 4 is a detached perspective view of the sliding bearing-blocks with the switch-point shown in dotted lines. Fig. 5 is a cross-section on line yy , Fig. 1.

30 A are the stationary rails of the main track.
B are the stationary rails of the siding.

C are the switch-points, which are both presented in the same direction at the ends of the inner rails.

35 D are two sliding blocks below each switch-point, provided with inclined slots a , which terminate at their lower ends into horizontal offsets a' . E are bolts passing through these slots and supporting the same slidingly in
40 position.

F are rail-chairs supporting the outside rails in position upon the ties T at the switch-points.

45 G are filler-blocks secured to the rails adjacent to the switch-point for the purpose of forming a vertical guide-bearing for the switch-point and its sliding bearing-blocks on the outer side.

50 H is a cover-plate forming a vertical guide-bearing for the switch-point and its bearing-blocks on the inside.

I is a foot formed on the cover-plate for supporting it upon ties and securing it thereto.

J are toggle-levers connecting the inner ends of the bearing-blocks. 55

K is a bell-crank having one arm connected to the junction of the toggle-lever by means of a clevis L and the other to the switch-operating rod L'.

It will be seen that the ties T are sunk below the underside of the rails for the purpose of affording more vertical space for the switch-point and its bearing-blocks to work in, and this is effected by making the supporting-base of the chairs F of such height as required,
60 and to make the guide-bearings continuous upon both sides plates M are secured below the rails. 65

The switch-point is preferably formed with a rabbet on its under side, which fits a corresponding rabbet formed on the top of the bearing-blocks in such manner that the switch-point is thereby supported against any outward displacement. The switch-block is also formed with guides N, which extend
70 downwardly and engage underneath the bearing-blocks, whereby in the lowering of the bearing-blocks the latter will carry the switch-point with it. These guides engage into vertical guide-bearings N', formed in the adjacent
75 face of the cover-plate, and thereby guide the switch-point in its vertical movement and also prevent its movement endwise. 80

The joint O between the adjacent ends of the rail and switch-point is made diagonally,
85 preferably, so as to hold the switch-point against lateral displacement inward.

The bearing-blocks have overhanging shoulders P at their outer ends, which operate in connection with fixed bearings, such as the
90 fastening-bolts Q, to support the ends of the bearing-blocks when the latter are in their raised position, in which the weight of the train bears upon them. In this position of the blocks the latter are further supported
95 by means of the bolts E engaging into the horizontal offsets a' of the slots a . The cover-plate extends with its ends beyond the bearing-blocks and is bolted to the rails. The bearing-blocks and switch-point are thus
100 firmly held and guided in position and are housed on all sides, thus making attempts to

tamper with the switch much more difficult than with those in present use.

In operation it will be seen that by means of the usual connecting-rod M, which connects
5 both of the actuating devices of the switch-points, one point is raised while the other is dropped, and thus a passing train can be directed at will to follow the main track or siding.

10 What I claim as my invention is—

1. In a railway-switch the combination with the stationary rails of a main track and siding, of vertically-movable switch-points in line with the inner rails at the junction with the
15 outer rails, one switch-point being depressed and the other at the level of the rails, a pair of sliding bearing-blocks supporting each switch-point and having inclined slots oppositely inclined in the two blocks, stationary
20 bolts passing transversely through these slots, toggles connecting the inner ends of each pair of bearing-blocks together, and operative connection for actuating the toggles in opposite directions by the movement of the switch-rod.

25 2. In a railway-switch, the combination with the stationary rails of a main track and siding, of vertically-movable switch-points in line with the inner rails at the junction with the outer rails, one switch-point being depressed
30 and the other at the level of the rails, a pair of sliding bearing-blocks supporting each switch-point and provided with inclined slots formed with horizontal offsets, toggle-levers connecting the inner ends of each pair of bear-

ing-blocks and adapted to move the same in 35 opposite directions, stationary bolts extending transversely through the slots in the bearing-blocks, means at the ends of said bearing-blocks adapted to support said ends when the blocks are in raised position and operative 40 connection with the switch-rod for actuating the toggles of the two pair of bearing-blocks in opposite directions.

3. In a railway-switch, the vertically-movable switch-points in combination with slid- 45 ing bearing-blocks below the same and having inclined guide-slots formed with horizontal offsets, bolts passing transversely through these slots and supporting the bearing-blocks slidably in position, and means for operating 50 the bearing-blocks.

4. In a railway-switch, the combination with the stationary rails of a main and side track, of the vertically-movable switch-points C, the bearing-blocks D having inclined slots a 55 formed with horizontal offsets a' , the bolts E passing through said slots, the chairs F and cover-plate H in which said bolts are supported upon the ties, the vertical guides N secured to the switch-points and projecting 60 beneath the bearing-blocks, the toggles J, the bell-cranks K adapted to move said toggles in opposite directions and the connecting-rod M for operating the same.

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Witnesses:

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