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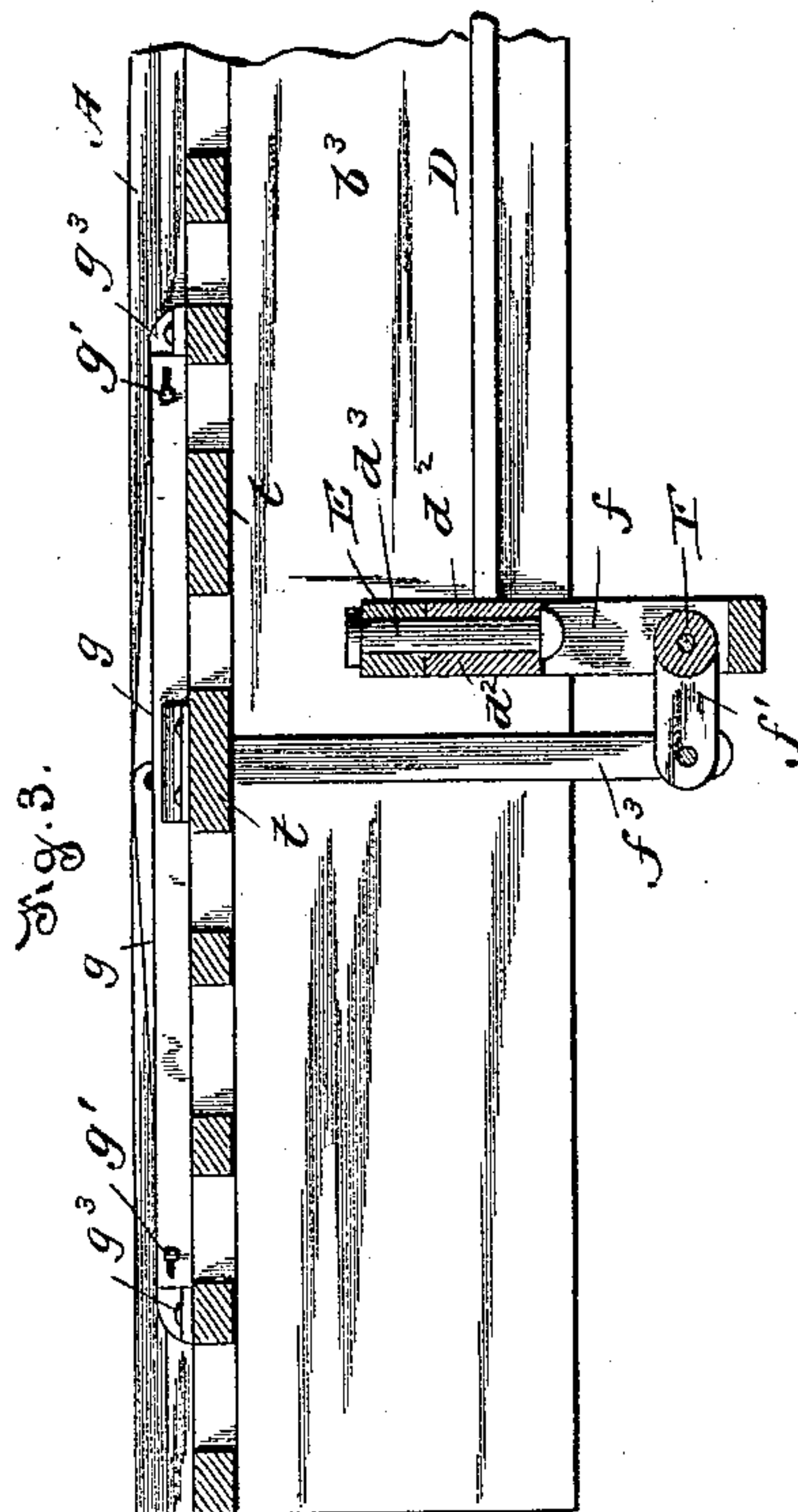
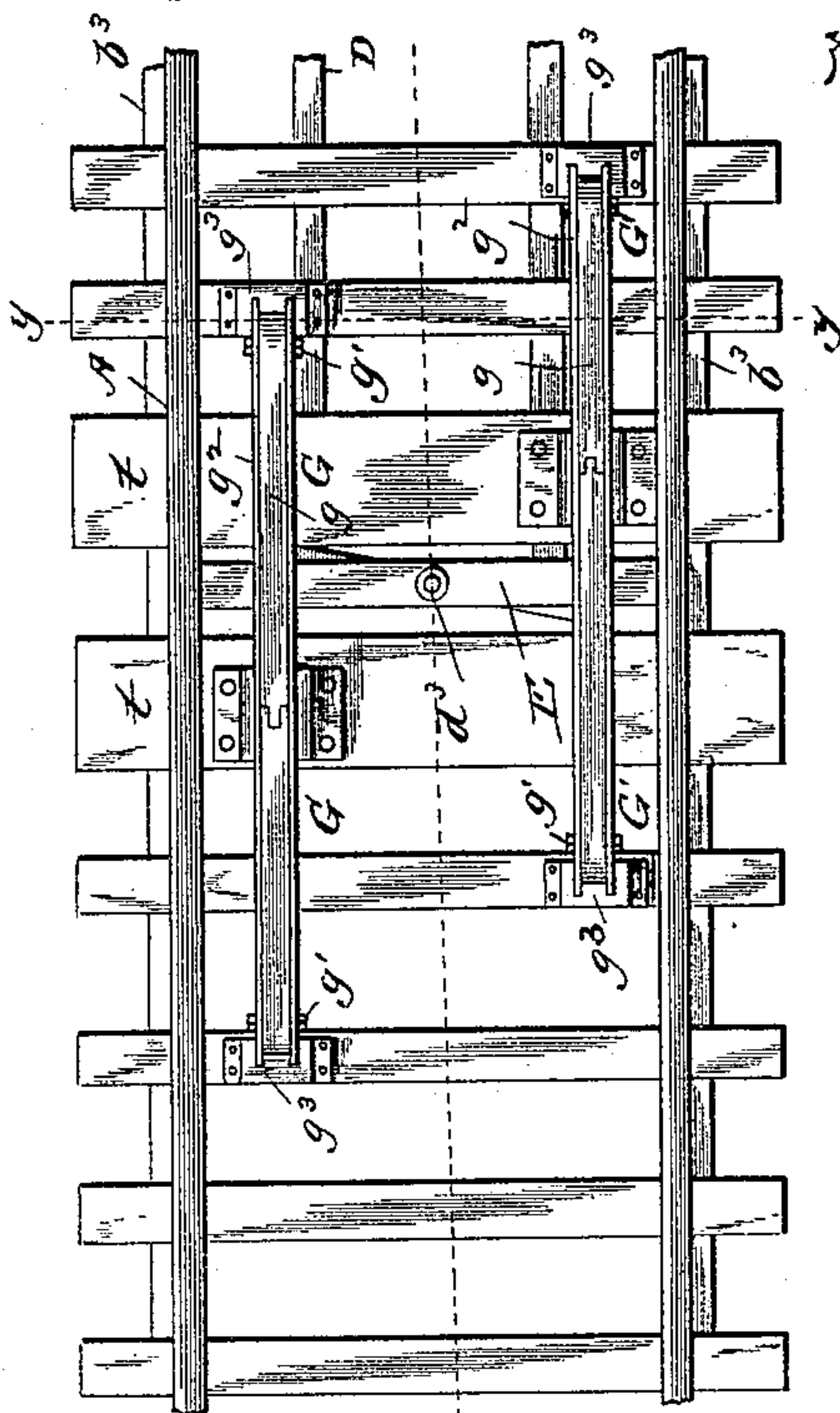
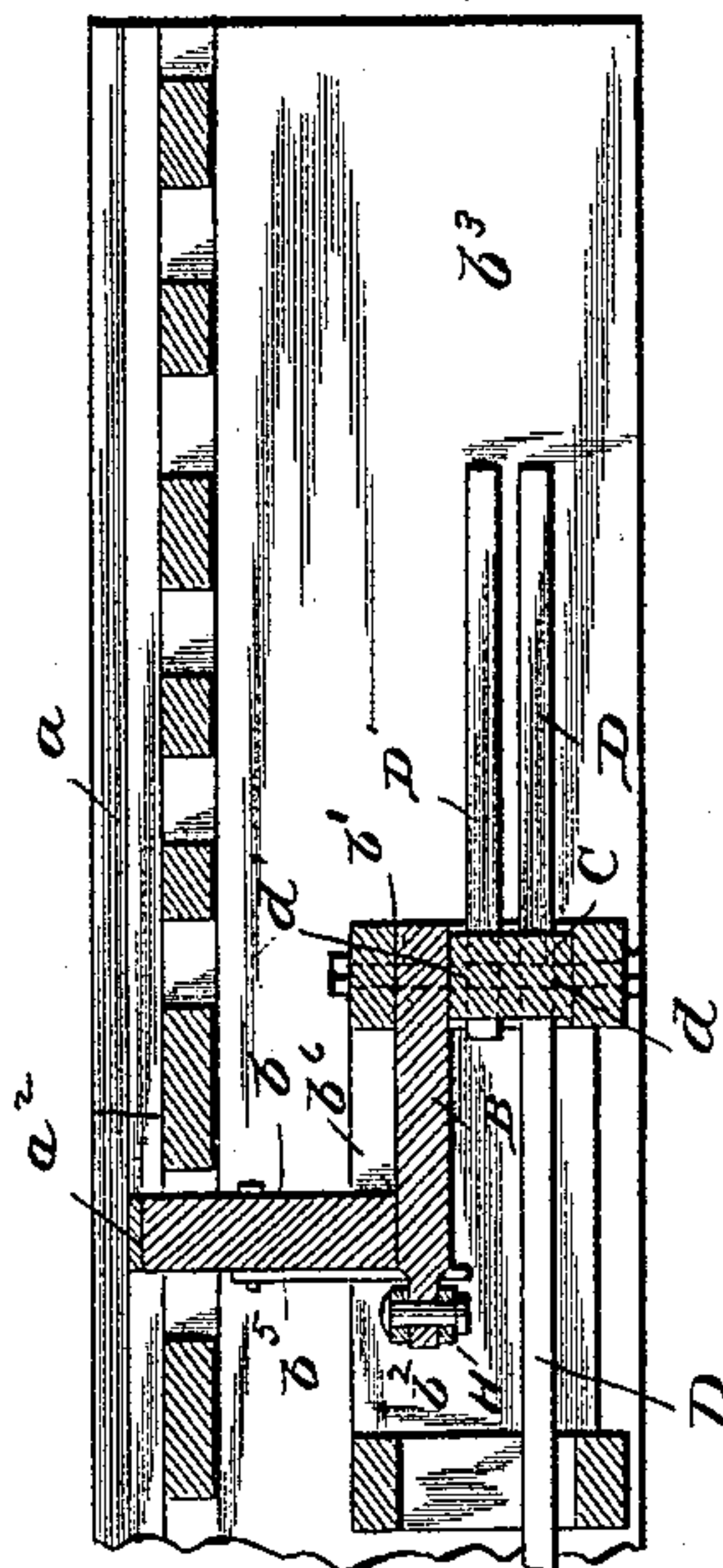
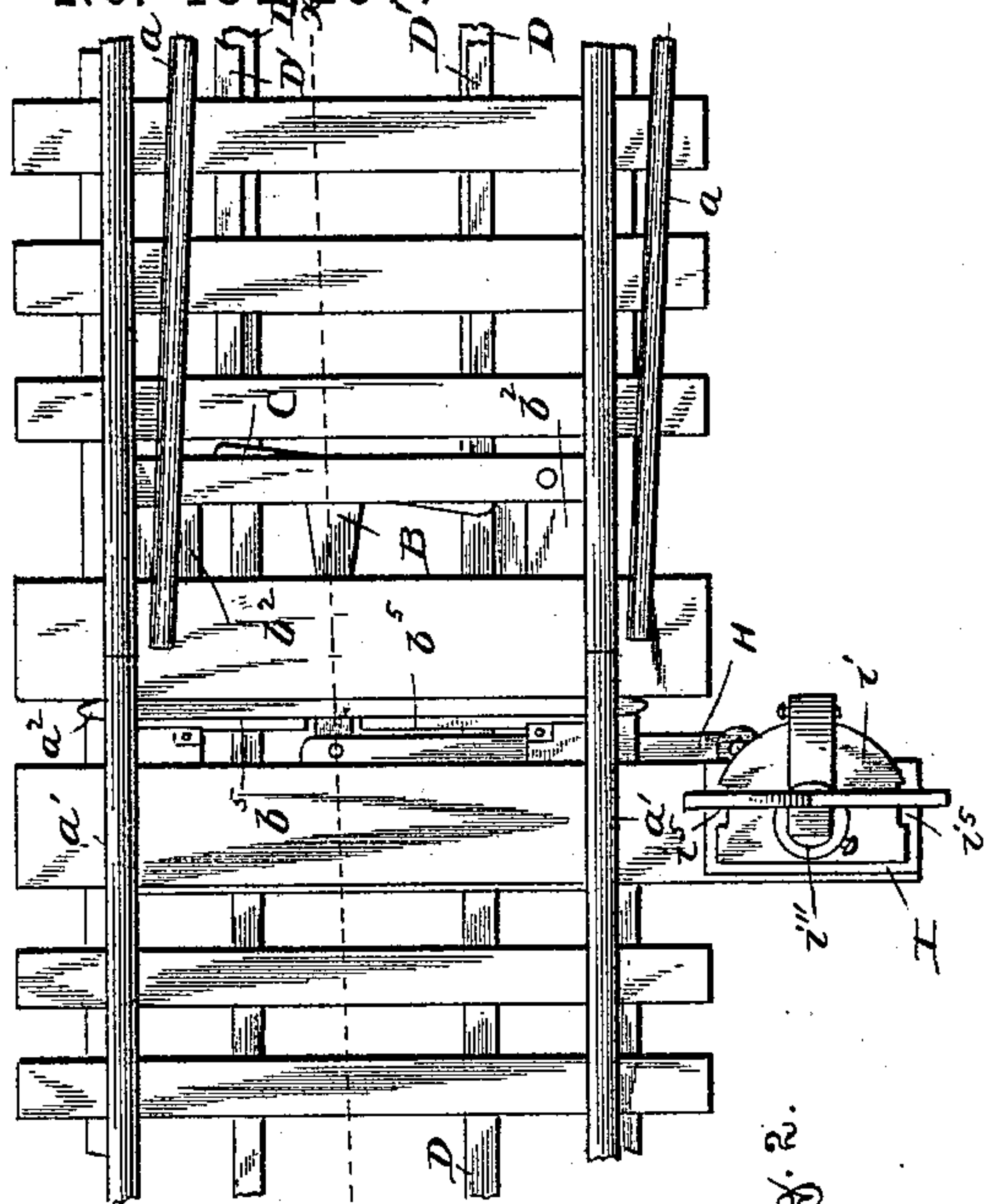
3 Sheets—Sheet 2.

S. PETERSON & A. BALAND.

RAILWAY SWITCH.

No. 481,267.

Patented Aug. 23, 1892.



Witnesses:

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Fig. 6.

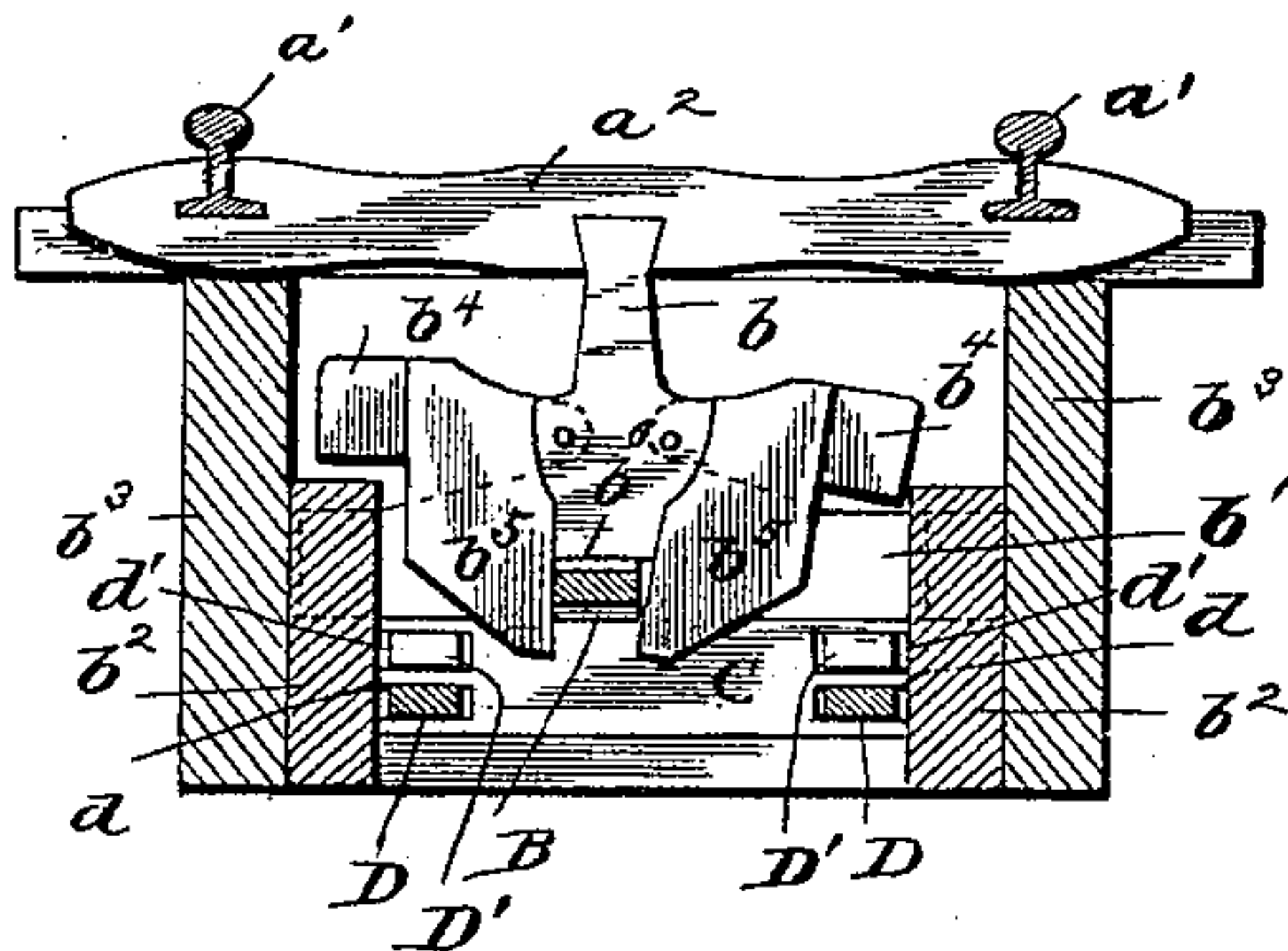
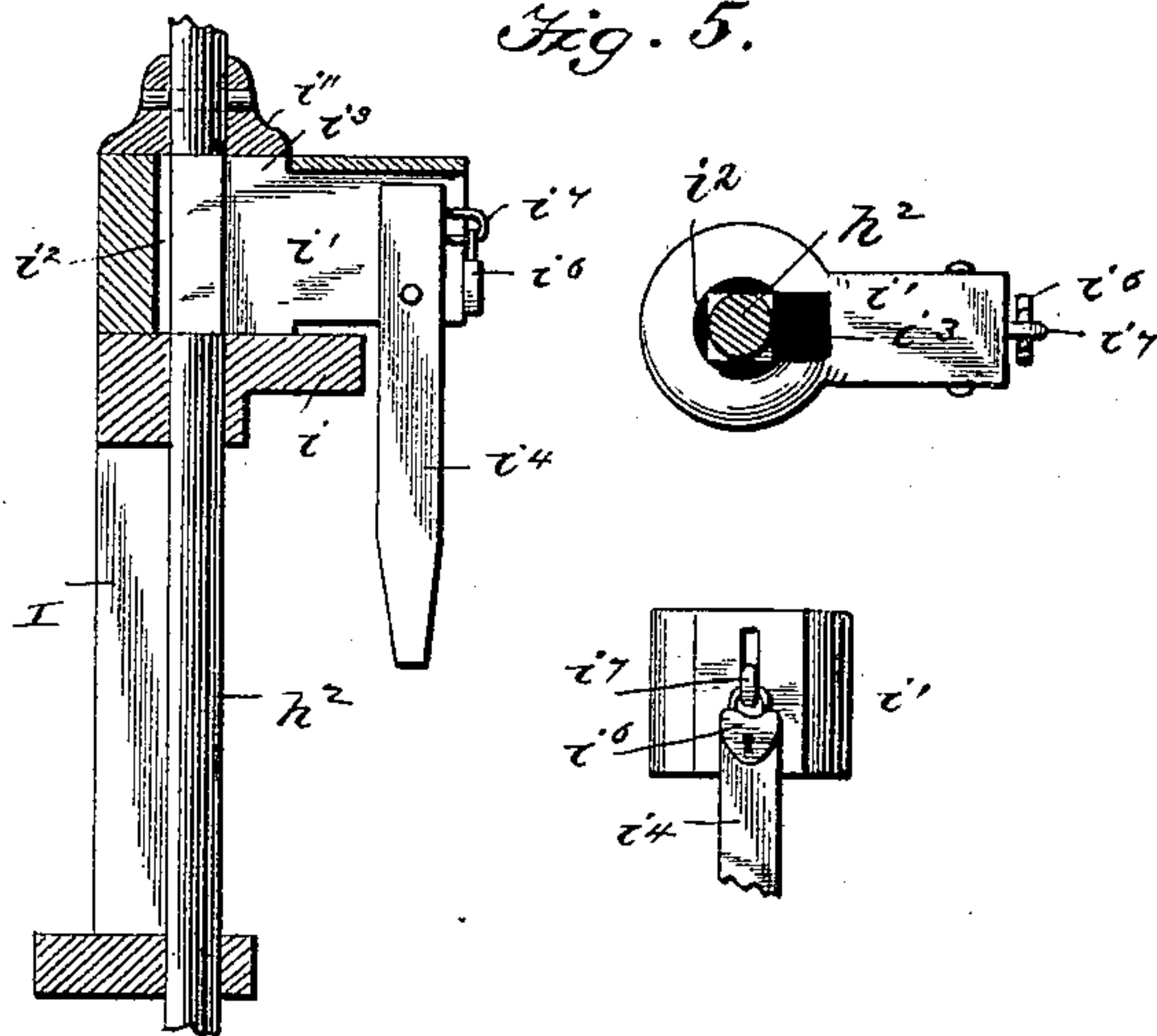


Fig. 5.



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UNITED STATES PATENT OFFICE.

SIVERT PETERSON AND AUGUST BALAND, OF MENOMINEE, WISCONSIN.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 481,267, dated August 23, 1892.

Application filed August 26, 1891. Serial No. 403,801. (No model.)

To all whom it may concern:

Be it known that we, SIVERT PETERSON and AUGUST BALAND, citizens of the United States, residing at the city of Menominee, in the county of Dunn and State of Wisconsin, have invented certain new and useful Improvements in Railway-Switches; and we do hereby declare the following to be a full, clear and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to a new and improved railway-switch and means for operating the same both automatically and by hand.

The invention has for its object the production of a cheap and simple railway-switch capable of being automatically operated from a passing train and also of being operated by hand, the switch-moving mechanism being firmly locked in either of its positions and prevented from accidentally shifting therefrom.

The invention comprises the detail construction, combination, and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, showing a portion of a car. Fig. 2 is a plan view. Fig. 3 is a vertical sectional view on the line $x x$, Fig. 2. Fig. 4 is a similar view on the line $y y$, Fig. 2. Fig. 5 is a detail view of the means for operating the switch by hand. Fig. 6 is a transverse sectional view of the automatic operating mechanism.

Referring to the drawings, A designates the main track, a the side track, and a' the switch-rails of the former. To these switch-rails at their outer ends is connected a cross-bar a^2 , with which engages the upright arm b of a movable cross-head b' . The ends of this cross-head are projected into openings of a frame b^2 , secured to the inner sides of two parallel side boards b^3 , arranged beneath the ties and rails at the point where the switch is located. To this cross-head are pivoted two locking-arms b^4 , which are designed to fit snug against the inner walls of frame b^2 when

the cross-head is moved from one side to the other, and thus lock the same in place. From each of these locking-arms extends a plate or wing b^5 , which serves as a weight for said arms. Through a slot or opening b^6 in the lower edge of the cross-head projects an arm B, which at one end is secured rigidly to a head or block C, pivotally mounted at its center between upper and lower end bars of frame b^2 . In the ends of this head or block C are upper and lower slots $d' d$, in the latter of which are pivotally secured parallel operating-bars D for operating the switch on the main line, while in the former slots are secured bars D' , through the agency of which the switch is operated from the side or branch track. At their rear ends operating-bars D are pivotally secured in the slotted ends of a cross-head d^2 , pivoted by a bolt d^3 to the top bar of a frame E, attached to boards b^3 and projecting beneath the latter.

F is a rock-shaft mounted at its ends in the vertical side bars of frame E, and from it projects a vertical arm f , having an upper grooved or slotted end, into which extends a stud or pin f^4 of cross-head d^2 . From this rock-shaft at its ends project opposite lateral arms $f' f^2$, to the outer ends of which are pivotally connected the lower ends of vertical bars f^3 , the upper ends of which are projected through slots or openings in adjacent ties t .

G G' are two sets of depressible bars, each set being composed of two bars g , pivotally connected together at their rounded meeting ends and pivoted at their outer ends by nutted bolts g' , projected through slots in parallel guide-bars g^2 , securely fastened to the cross-ties by keeper-plates g^3 . The upper ends of bars f^3 extend up between the parallel guide-bars g^2 and against the under sides of the bars g , whereby by depressing either set of these bars the bar f^3 in contact with such depressed set will be lowered and effect the rocking of shaft F, causing through the agency of the short vertical arm thereof the turning of cross-head d^2 and the movement of the parallel bars D. The latter will cause the head or block C to turn on its pivot and through the agency of arm B will move the cross-head b' toward the right or left, according as to which set of depressible bars G or G' has been operated, and said cross-head will be locked in position

by one of the arms b^4 . It is obvious that by extending the operating-bars D double their length they can be connected with switch mechanism the counterpart of that hereinbefore described for operating the switch by a train moving in an opposite direction; also, said switch can be operated by similar mechanism connected with the bars D'.

To enable the switch to be set or operated by hand, we connect to the outer end of arm B a link-bar or pitman H, which is extended through an opening in one of the boards b^3 and pivotally connected between parallel cheeks h of a collar h' , fast upon a vertical rod or shaft h^2 , which latter is mounted at its lower end in a projecting end of a tie. This rod or shaft is projected up through a stand or frame I at one side of the track, and above the top board i of said stand said rod is square in cross-section, and upon this square portion is a block i' , held as against upward movement by a collar or washer i'' . This block is provided with a circular hole or opening i^2 and a square elongation i^3 thereof. In a slot or groove in the outer lower end of this block is pivotally secured the square end of an arm i^4 , by which when in a horizontal position the block i' can be moved, so as to make the square elongation i^3 surround the square portion of rod h^2 and cause the latter to turn with said block and arm, and thus effect the setting of the switch. By dropping arm i^4 into any one of the grooves or recesses i^5 in the edge of the top board i the block i' will be drawn forward and freed from contact with rod h^2 . The arm i^4 when in a lowered vertical position can be locked as against operation by a padlock i^6 , passed through an eye or staple i^7 , attached to the inner end of said arm, and which is projected beyond the slotted end of the block when the arm is lowered. A signal J is inserted on rod h^2 to indicate the position of the switch.

The switch may be operated by any known means or any means hereafter devised adapted to depress either one or the other of the depressible bars G or G'.

We claim as our invention—

1. The herein-described railroad-switch, comprising the switch-rails, the sliding cross-head connected thereto, the corresponding

locking-arms pivoted to said cross-head, the pivoted head or block having an arm engaging said cross-head, and the operating-bars connected to said head or block, substantially as set forth.

2. The herein-described railroad-switch, comprising the switch-rails, the sliding cross-head connected thereto, the corresponding locking-arms, the pivoted head or block having an arm engaging said cross-head, the operating-bars connected thereto, the pivoted cross-head to which said bars are also connected, the rock-shaft for operating said latter cross-head, and the depressible bars for effecting the rocking of said shaft, substantially as set forth.

3. The herein-described railroad-switch, comprising the switch-rails, the cross-head connected thereto, the pivoted head or block having an arm engaging said cross-head, the operating-bars connected thereto, the pivoted cross-head to which said bars are also connected, the rock-shaft having an upwardly-projecting arm engaging a stud of said pivoted cross-head and also having opposite lateral arms at its ends, the vertical bars connected to said lateral arms, and the depressible bars for effecting the lowering of said vertical bars, substantially as set forth.

4. The combination, with the switch-rails, of the sliding cross-head connected thereto, the arm having a pivoted bearing or support and engaging said sliding cross-head, the link-bar or pitman connected to said arm, the vertical rod or shaft to the lower end of which said pitman is connected, the stand or frame through which said rod or shaft is extended, the block on said rod or shaft having a hole or opening and an elongated slot corresponding with said shaft, and also having an outer slotted or grooved end, the arm pivoted in said slotted or grooved end, and means for locking said arm, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

SIVERT PETERSON.
AUGUST BALAND.

Witnesses:

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F. C. MICHEELS.