

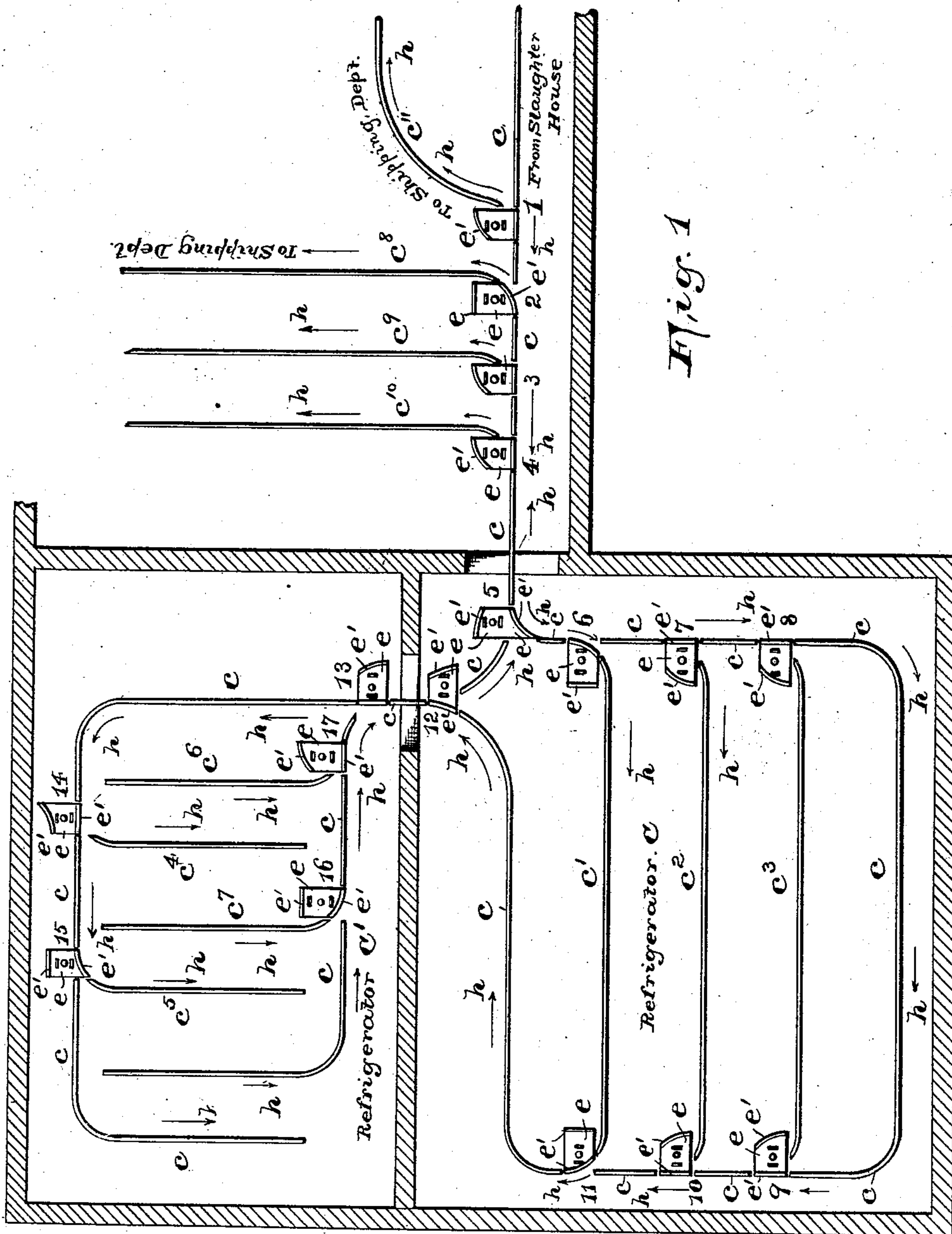
(No Model.)

2 Sheets—Sheet 1.

P. F. WERNER.  
OVERHEAD TRAMWAY.

No. 491,151.

Patented Feb. 7, 1893.



WITNESSES:

Wm. H. Camfield, Jr.  
Walter G. E. Ward

INVENTOR:

Paul F. Werner,  
BY Fred C. Fraentzel, ATT'Y.

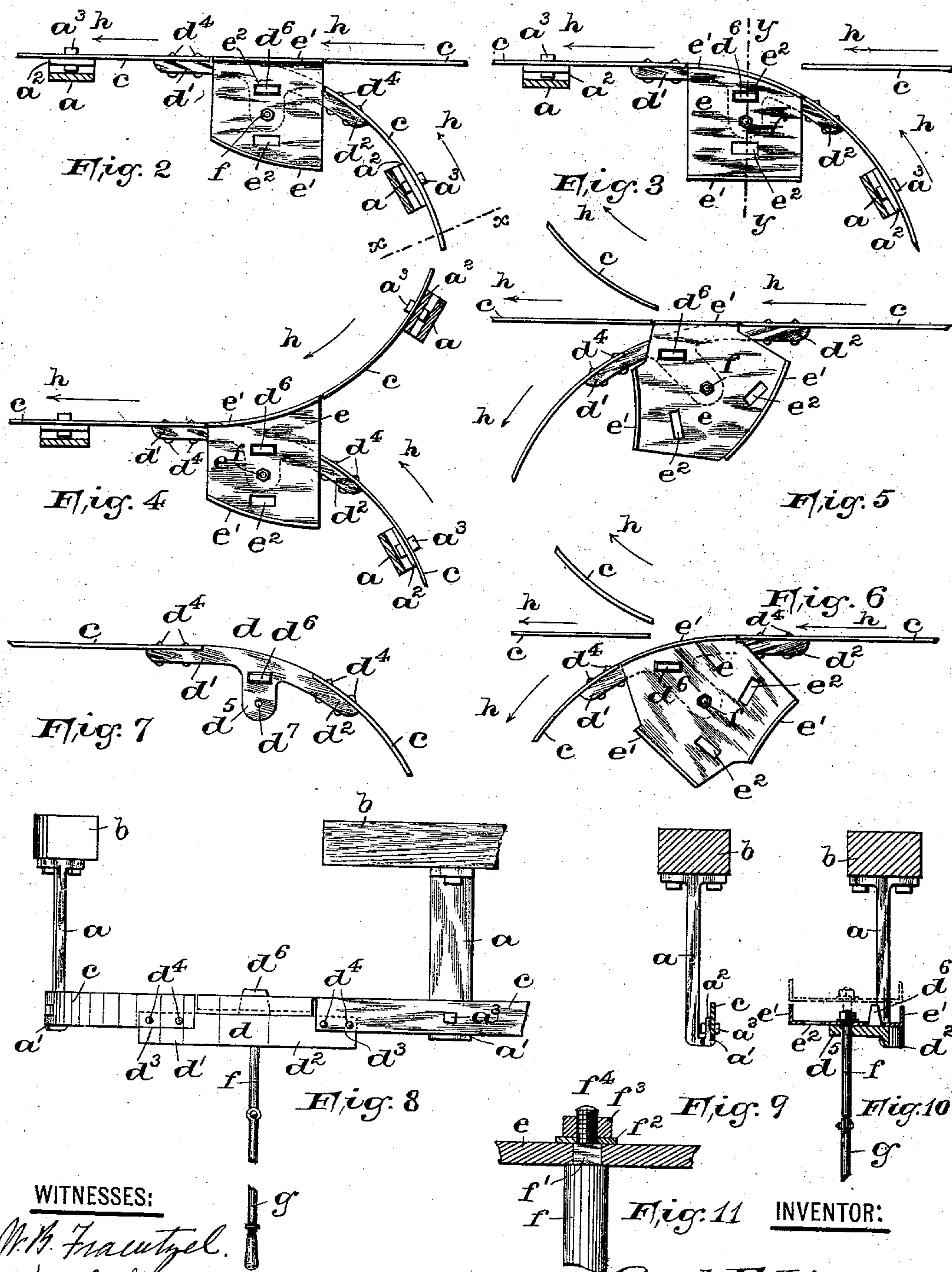
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# UNITED STATES PATENT OFFICE.

PAUL F. WERNER, OF VAILSBURG, NEW JERSEY, ASSIGNOR TO J. DUNCAN & CO., OF BOSTON, MASSACHUSETTS.

## OVERHEAD TRAMWAY.

SPECIFICATION forming part of Letters Patent No. 491,151, dated February 7, 1893.

Application filed October 8, 1892. Serial No. 448,187. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL F. WERNER, a citizen of the United States, residing at Vailsburg, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Overhead Tramways; and I 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in overhead tramways or railways, and the main object of the invention is to improve the means for facilitating a direct communication of a main rail with two or more side rails by means of the employment of switches adapted to be operated by means of a turning handle turned by the workman while pushing the traveler for carrying the articles to be transported, and thereby causing the traveler to be forced upon the desired side rail or track.

My invention therefore consists in a novel construction of the switches or turntables employed, and furthermore in a safety device used in connection with the main rail and one of the side rails, upon which the switch or turn table turns and can be locked or held in such positions that a continuous rail will always be presented to the movement of the traveler.

The invention furthermore consists, of certain other arrangements and combinations of parts, such as will be hereinafter more fully described and finally embodied in the clauses of the claim.

In the drawings herewith accompanying, Figure 1 represents a diagrammatic view of one arrangement of rails and switches embodying my invention. Fig. 2 is a top view of one of the switches for connecting a straight rail and a curved rail, the connection being made so as to form a continuous straight rail. Fig. 3 is a similar view of the same switch, the connection in this instance being made on the curve. Fig. 4 is a plan view of a form of switch for establishing communication of a straight rail with either of two curved

rails. Fig. 5 is a plan or top view of a three-throw switch, and Fig. 6 is a similar view of said switch in a different position, establishing a direct communication of the main rail with one of the curved rails. Fig. 7 is a top view of a safety device, or connecting piece arranged between two rails, the switch or turn table being removed therefrom. Fig. 8 is a side view of portions of two rails, the safety device or connecting piece and a switch in position thereon, clearly illustrating the arrangement of a handle for operating or turning the switch. Fig. 9 is a vertical section of one of the rails, taken on line  $x$  in Fig. 2, illustrating in connection therewith, a hanger for supporting the rail, and Fig. 10 is a vertical cross-section taken on line  $y$  in Fig. 3. Fig. 11 is a detail view of the upper portion of the operating or turning lever and part of the turn table, to illustrate the manner of connecting these parts.

Similar letters and numerals of reference are employed to designate corresponding parts in each of the several figures.

In said drawings,  $a$  designates a series of hangers supported from the beams  $b$  or from the ceiling, each hanger being preferably provided with a shoulder  $a'$  and an upwardly extending portion  $a^2$  against which are secured, by means of bolts or rivets  $a^3$ , the rails  $c$ .

At desirable points in the rail system, as for instance at that point where direct communication between the main rail and two, three or more branch rails is to be established, I have arranged a safety device or connecting piece  $d$ . Said connecting piece  $d$ , as will be seen more especially from Fig. 7, is provided with two arms  $d'$  and  $d^2$ , each being provided at or near its extreme end portions with the recessed or cut-away portions  $d^3$  into which the end of the main rail and one of the curved branch or side rails are fitted and firmly secured by means of bolts or rivets  $d^4$ . Said device  $d$  is also provided with a centrally placed arm  $d^5$  on which is arranged an upwardly extending locking post  $d^6$ . The device or connecting piece  $d$  is connected in such a manner between the ends of two or more rails  $c$  that the upper surfaces of said rails are considerably above the upper flat surface of said safety device. Upon said de-



vice or connecting piece  $d$ , is placed a switch board or turn table  $e$ . Through a hole or perforation  $d^7$  in said arm  $d^5$  extends the upper end of an operating lever or rod  $f$  to which is pivotally connected, the operating handle  $g$ . The upper portion of the rod  $f$ , which extends above the arm  $d^5$ , is squared as at  $f'$ , and upon this squared portion is arranged the switch board or turn table  $e$ , being firmly held in place by means of a washer  $f^2$  and a nut  $f^3$  adapted to be screwed down on the threaded portion  $f^4$  of the rod  $f$ , as will be clearly understood from Fig. 11. Of course other well known means may be used for securing these parts together.

The switch board or turn table  $e$  is provided with upwardly extending rail portions  $e'$ , which may be straight and curved, as in Figs. 2 and 3, and both of which may be curved as in Fig. 4. Where two such rail portions  $e'$  are employed, the switch-board or turn-table  $e$  is provided with two oppositely arranged holes  $e^2$ , which are preferably rectangular in outline, through one of which the wedge-shaped locking post  $d^6$  on the safety device extends to lock or hold the switch-board or turn table  $e$  in its desired position, whereby either of the rails  $e'$  establishes a direct communication between the main rail and one of the side rails. The switch-board  $e$  may be provided with three or more such rail portions  $e'$ , as will be seen from Figs. 5 and 6, whereby the main rail can be made to communicate directly with either one of the three or more branch rails. Of course, in this form of construction, the switch-board or turn-table  $e$  must be provided with three or more of such openings  $e^2$ .

Suppose the operator or workman wants to turn the switch, when in the position illustrated in Fig. 2, to the position illustrated in Fig. 3, so as to connect the main line with the curved side track, all he has to do is to look up at the switch board, and if open, he takes hold of the handle  $g$  and by means of the post  $f$  raises the switch-board  $e$  to the position indicated in dotted outline in Fig. 10, whereby the board  $e$  is disengaged from the holding or locking post  $d^6$ , and by means of the said handle, the switch board  $e$  is turned in a horizontal plane, until the next hole or opening  $e^2$  is brought over said post  $d^6$ , the switch board thereby being once more locked whereby the curved rail portion  $e'$  establishes a direct communication between the main rail  $c$  and the curved side rail, as illustrated in said Fig. 3.

In Fig. 1 is illustrated one arrangement of main track  $c$  and the arrangement of switch boards or turn tables  $e$  therein for establishing a direct communication of the main track with a series of side tracks. It illustrates the arrangement of an overhead tramway, as it may be used in connection with a slaughter-house and the refrigerator chambers or rooms, used in such establishments.

As shown in said drawings, the main track  $c$  comes from the slaughter-house; the travelers or carriers all moving in the direction of arrows  $h$ . As the workman brings the carcass, supported from a hook on the traveler on the main rail, he finds switch No. 1 closed with the main line, but switch No. 2 is open. By quickly grasping the handle  $g$  hanging down from said switch, he raises the switch board and by means of a turn closes the main line, and the traveler passes on until switch No. 6 in refrigerator C is reached, which he opens, so as to cause the travelers to run on side track  $c'$ , where the carcasses are allowed to hang as long as desired. In this manner side tracks  $c^2$  and  $c^3$  can also be filled, or by properly turning switches Nos. 5 and 12, the travelers can be made to run into refrigerator C'. In order to establish communication between tracks  $c'$ ,  $c^2$  and  $c^3$ , in refrigerator C with tracks  $c^4$ ,  $c^5$ , &c., in refrigerator C', I employ the switches numbered 9, 10, 11, 12, 13, 14 and 15. In returning from either of the refrigerators, I can run onto the lines  $c^8$ ,  $c^9$ ,  $c^{10}$ , and  $c^{11}$ , by means of the switches numbered 2, 3, 4 and 1, to the shipping department.

Of course, it will be understood, that the arrangement of tracks and switches illustrated in said Fig. 1 is to illustrate only one form or manner of arranging them, but it will be evident that many of the arrangements and combinations of tracks and switches may be made.

Of course it will be evident, that the rail-portions  $e'$  on the switch-board  $e$  may be straight or of any suitable curve, in order to connect the end portions of any two rails and thereby complete a continuous rail, as will be readily understood from an inspection of the drawings. (See particularly Figs. 2, 3, 4, 5 and 6.)

Having thus described my invention, what I claim is:—

1. In an overhead tramway, the combination of rail-sections, a connecting piece, and a pivoted switch board or turn table on said connecting piece, provided with two or more rail sections, substantially as and for the purposes set forth.

2. In an overhead tramway, the combination of rail sections, a connecting piece, a locking post thereon, and a pivoted switch board or turn table on said connecting piece, provided with two or more rail sections and two or more holes or openings adapted to be made to engage with the locking post, substantially as and for the purposes set forth.

3. In an overhead tramway, the safety device  $d$ , having a locking post thereon, and a switch board or turn-table pivotally arranged on said safety device  $d$ , rail sections thereon, openings adapted to be made to engage with said locking post, and means for causing the disengagement of said stop-post with said switch-board or turn-table, whereby the



switch board or turn-table may be turned, substantially as and for the purposes set forth.

4. In an overhead tramway, the safety device *d*, having a locking post thereon, and a switch board or turn-table pivotally arranged on said safety device *d*, rail sections thereon, openings adapted to be made to engage with said locking post, and means for causing the disengagement of said locking-post with said switch board or turn table whereby the switch-board or turn table may be turned, consist-

ing essentially of a rod *f* turning in said safety device and secured to said switch board, and a handle connected with said rod for turning the same, substantially as for the purposes set forth. 15

In testimony that I claim the invention set forth above I have hereunto set my hand this 27th day of September, 1892.

PAUL F. WERNER.

Witnesses:

FREDK. C. FRAENTZEL,  
WM. H. CAMFIELD, Jr.