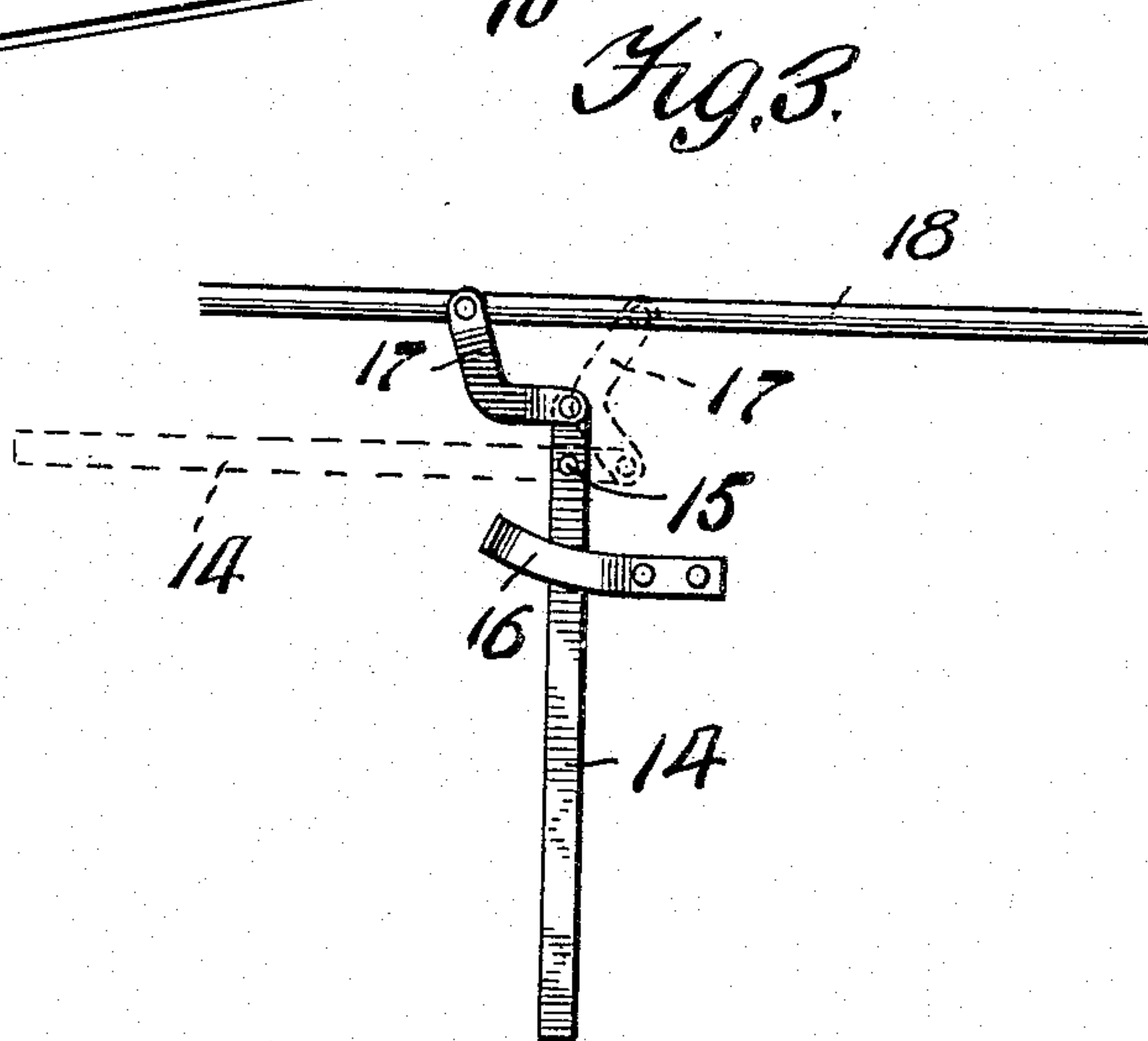
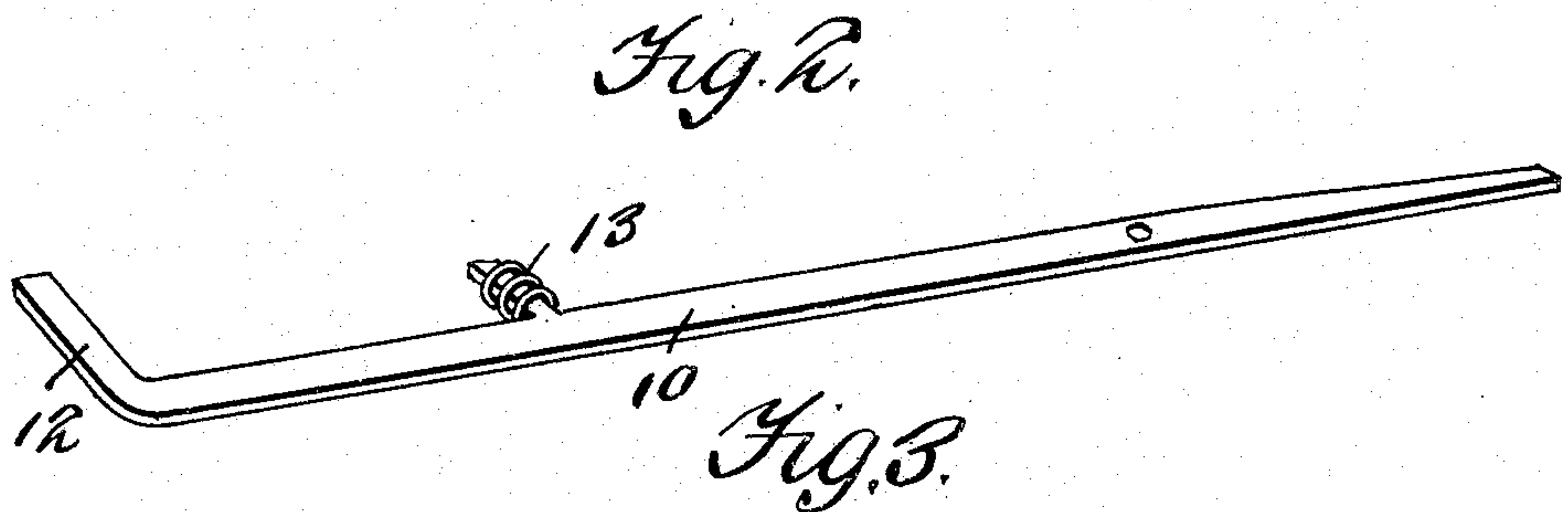
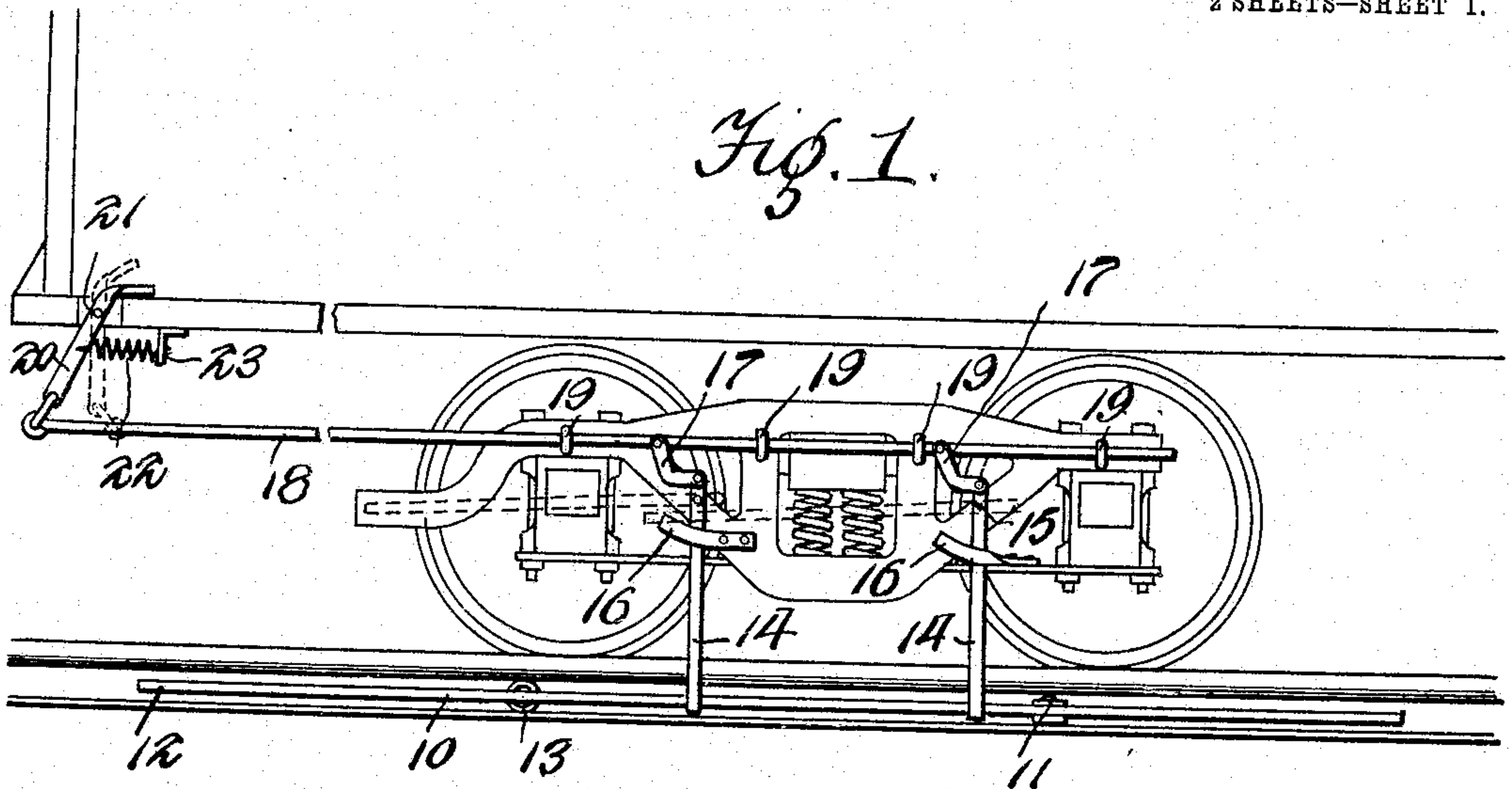


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STREET RAILWAY SWITCH.  
APPLICATION FILED APR. 16, 1909.

939,041.

Patented Nov. 2, 1909.

2 SHEETS—SHEET 1.



Witnesses

*Hugh H. Allen*  
*R. M. Smith*

Inventor  
*James Leith*

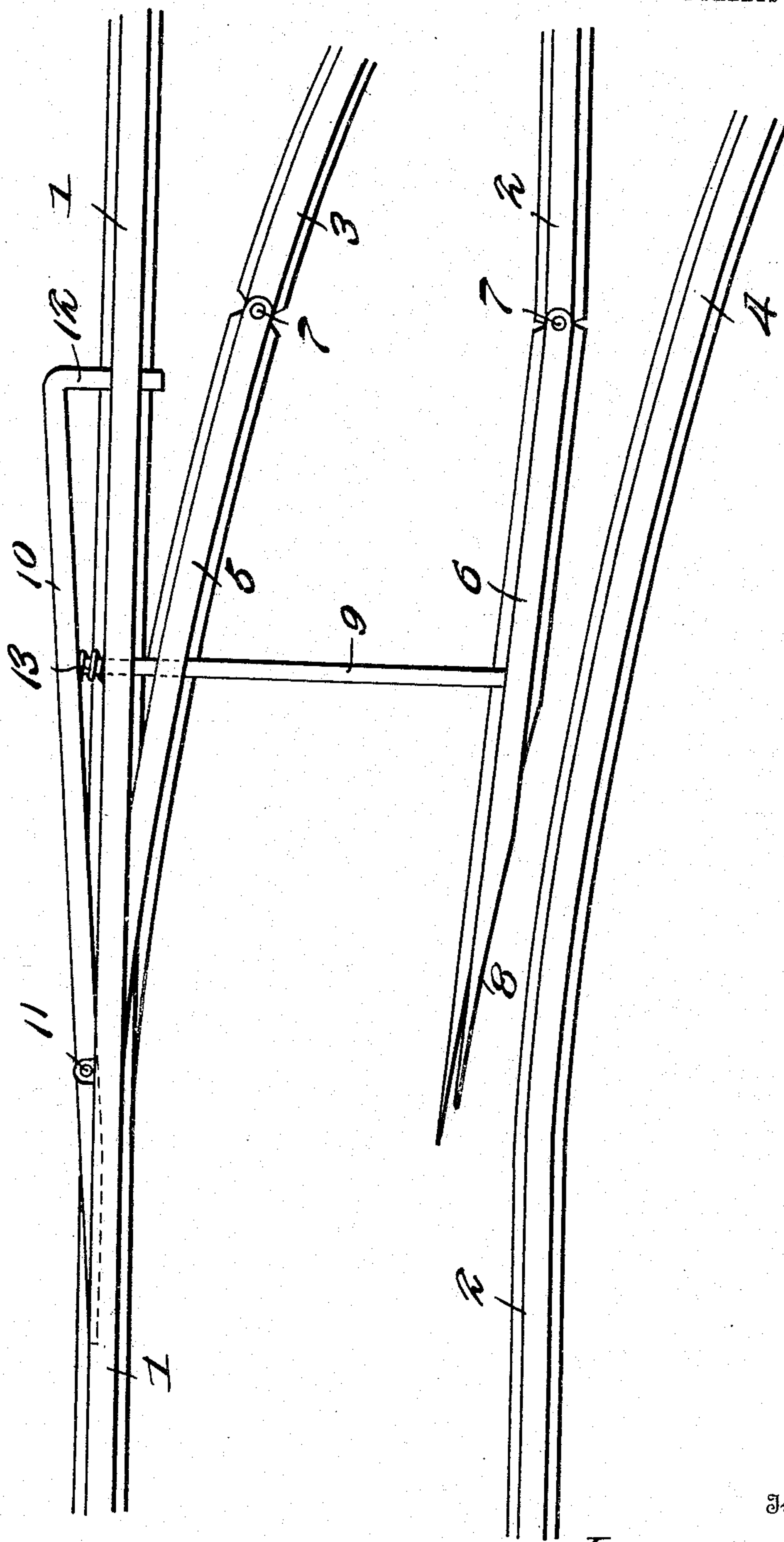
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Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES LEITH, OF SHERBROOKE, QUEBEC, CANADA, ASSIGNOR OF ONE-HALF TO HENRY CAYA, OF SHERBROOKE, CANADA.

## STREET-RAILWAY SWITCH.

939,041.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed April 16, 1909. Serial No. 490,429.

*To all whom it may concern:*

Be it known that I, JAMES LEITH, a subject of the King of Great Britain, residing at Sherbrooke, in the Province of Quebec and Dominion of Canada, have invented new and useful Improvements in Street-Railway Switches, of which the following is a specification.

This invention relates to street railway switches, the object of the invention being to provide in connection with switch operating means carried by a car, a switch embodying a novel combination and arrangement of elements adapted for actuation by the device on the car, whereby the motorman by properly positioning the device on the car may cause the switch to be opened or allowed to remain closed in accordance with the necessity of the case.

With the above general object in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a sufficient portion of a car to illustrate the switch-operating device, showing also a portion of the switch mechanism. Fig. 2 is a detail perspective view of the pivoted switch throwing trip rail. Fig. 3 is a detail view on an enlarged scale of a portion of the tripping device carried by the car. Fig. 4 is a plan view of the switch mechanism.

Referring to Fig. 1 of the drawings, 1 and 2 designate the main track rails, 3 and 4 the switch rails, and 5 and 6 the switch ends or movable sections of the switch rails which are pivotally connected at 7 to one of the switch rails and one of the main rails. The free extremities of the switch point rails are beveled or chamfered as shown at 8 to enable the same to hug closely to and lie close to the adjacent sides of the main rails as shown at the top of Fig. 4.

The operating mechanism for the switch rails comprises a connecting and operating bar 9, which is connected to the rails 5 and 6 so as to cause the same to move simultaneously when said operating bar 9 is moved longitudinally. The bar 9 extends through an opening in one of the main rails

and projects outside of and beyond the main rail where it is connected to a trip rail 10. This trip rail 10 extends along the outer side of the main rail and is normally held at an inclination thereto, the said rail being pivotally mounted at 11 on the outer side of the main rail and being provided at its opposite end with an inwardly projecting guide extension 12 which projects through a guide opening in the main rail as indicated in Fig. 4. Between the main rail and the trip rail 10 there is interposed an expansive spring 13 the tension of which is exerted to force the trip rail 10 away from the main rail 1 as shown in Fig. 4, said trip rail in such position extending obliquely or at an angle to the main rail.

The operating device on the car comprises a pair of trip levers 14 which are fulcrumed at 15 on the truck frame and adapted to move back and forth between the truck frame and keepers 16. At their upper ends, the levers 14 are connected by angle links 17 with a common lever operating slide rod 18 working through suitable guides 19 of the truck frame and connected at one end to the lower arm of a pedal lever 20 which is pivoted at 21 on the car platform, the upper end thereof projecting above the platform so as to be within reach of the motorman's foot.

22 designates a lever return spring one end of which is connected to the lever 20 and the opposite end thereof connected to a drag 23 secured to the under side of the platform.

By means of the pedal lever 20, the trip levers 14 may be moved to the pendent or upright position shown by full lines in Fig. 1 or to the dotted line position shown in the same figure.

When the trip levers 14 are depressed as shown in Fig. 1, and the car reaches the switch, said levers ride against the outer side of the trip rail 10 and force said rail inward, overcoming the tension of the spring 13 and causing the operating bar 9 to shift the switch point rails 5 and 6. As shown in Fig. 4, the switch is normally thrown into communication with the main track but if the motorman desires to continue along the main track he moves the trip levers to a vertical position where-



upon, upon reaching the switch, the switch point rails 5 and 6 are shifted so as to make the main track continuous.

I claim:—

- 5 A street railway switch comprising in connection with pivotally mounted and horizontally swinging switch point rails, an operating bar connecting said rails and intersecting one of the main rails and projecting  
10 outside of said main rail, a trip rail pivotally mounted on the outer side of said main rail and provided with an inwardly projecting guiding extension working through a

guide opening in the main rail, a switch setting expansion spring interposed between 15 the main rail and said trip rail and acting to force the latter outward, and switch-operating means on the car adapted to cooperate with said trip rail.

In testimony whereof I affix my signature 20 in presence of two witnesses.

JAMES LEITH.

Witnesses:

HENRY CAYASON,  
H. H. LANGLOIS.