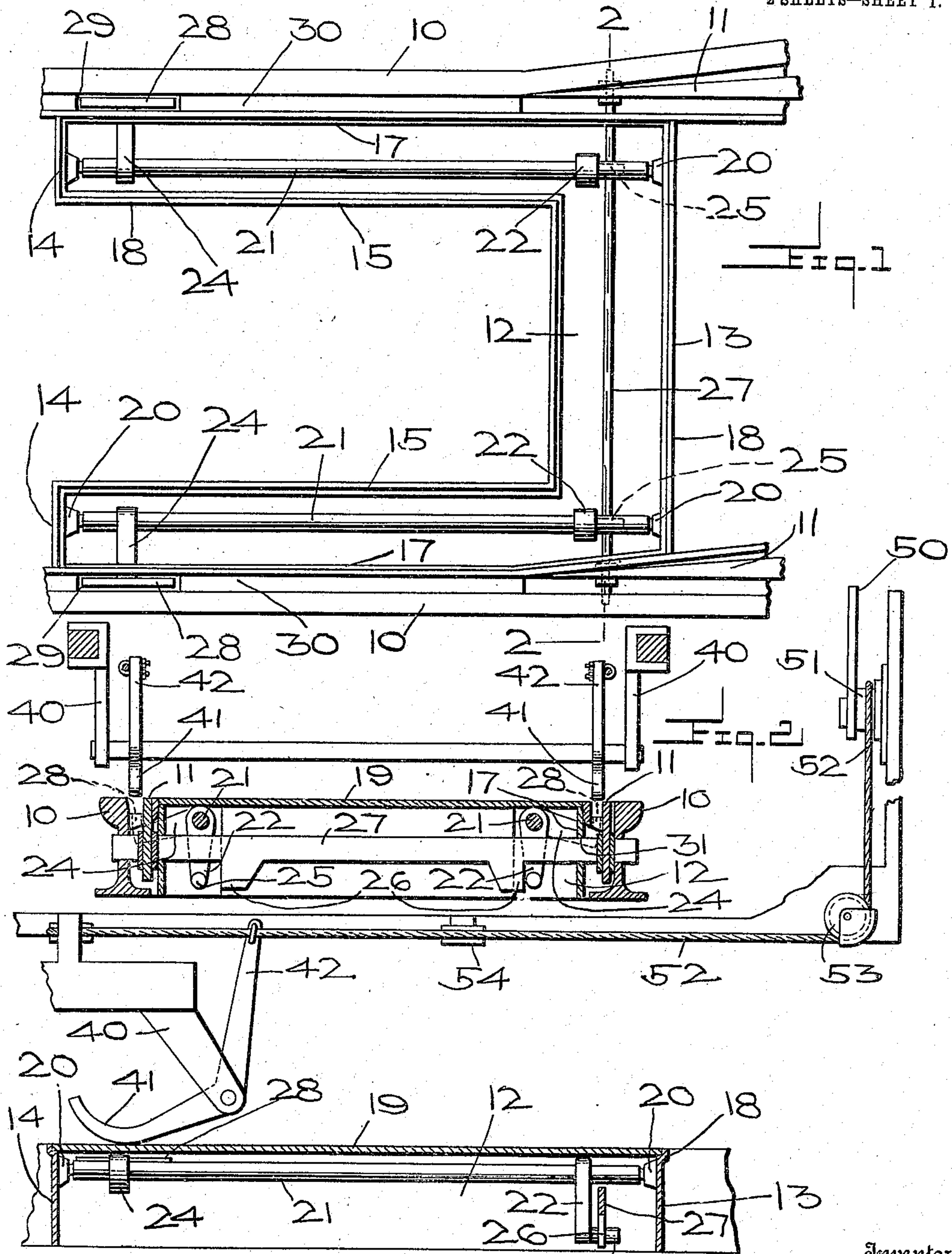


G. FLESSA.  
 AUTOMATIC STREET CAR SWITCH.  
 APPLICATION FILED JAN. 30, 1909.

930,463.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.



Inventor

George Flessa.

Witnesses

Ed. R. Lushy  
 E. L. Chandler

By

Woodward & Chandler

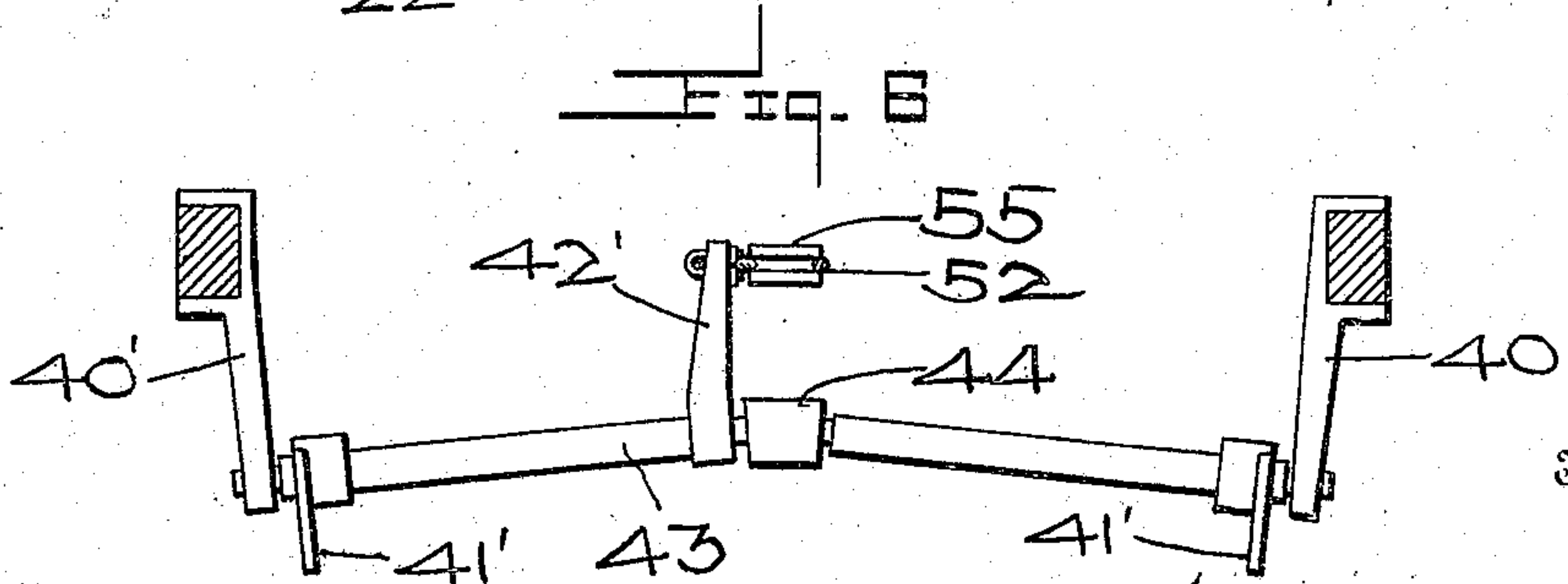
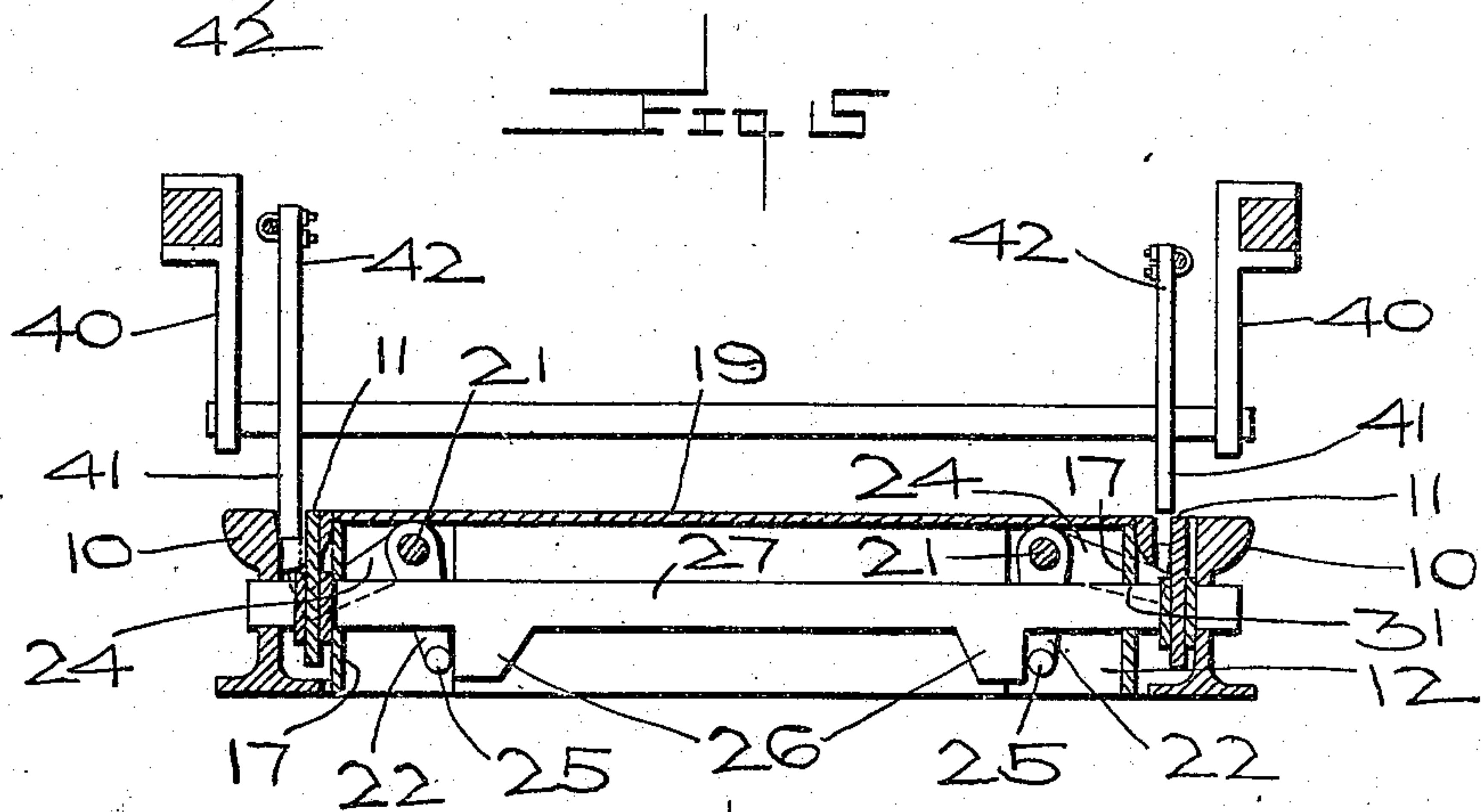
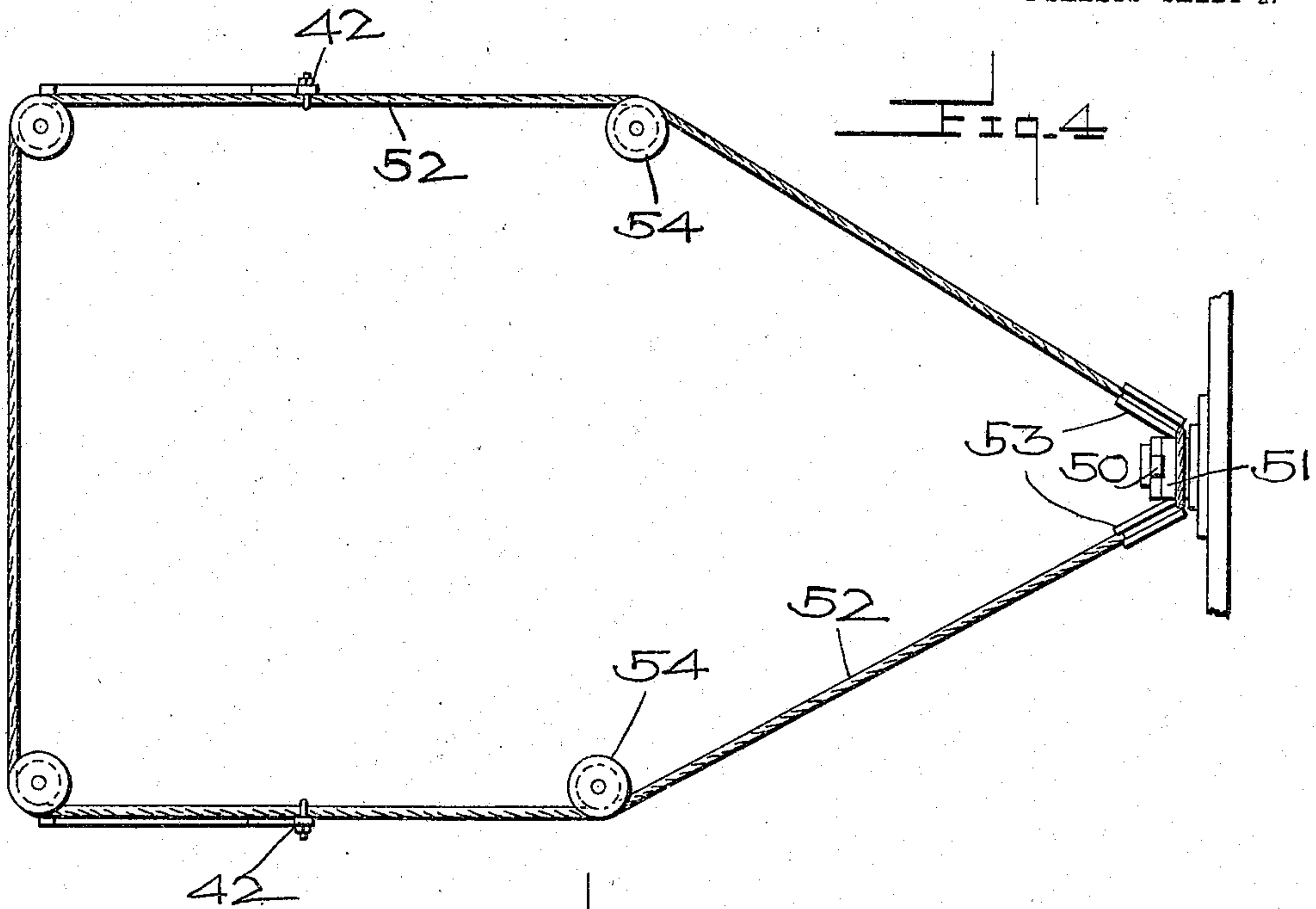
Attorney

G. FLESSA.  
 AUTOMATIC STREET CAR SWITCH.  
 APPLICATION FILED JAN. 30, 1909.

930,463.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 2.



Witnesses  
 Ed. L. Lushby  
 E. L. Chandler

Inventor  
 George F. Flessa  
 By Woodward & Chandler  
 Attorney.



# UNITED STATES PATENT OFFICE.

GEORGE FLESSA, OF RAWHIDE, NEVADA, ASSIGNOR OF TWENTY-FIVE PER CENT. TO  
J. A. PETERSON, OF RAWHIDE, NEVADA.

## AUTOMATIC STREET-CAR SWITCH.

No. 930,463.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed January 30, 1909. Serial No. 475,145.

*To all whom it may concern:*

Be it known that I, GEORGE FLESSA, a citizen of Germany, residing at Rawhide, in the county of Esmeralda and State of Nevada, have invented certain new and useful Improvements in Automatic Street-Car Switches, of which the following is a specification.

This invention relates to railways, and more particularly to switches, and has for its object to provide a switch which may be operated by the driver of a car approaching the switch.

Another object is to provide a switch operating mechanism of a simple structure by which a switch point may be operated to direct an approaching truck upon any desired track.

Another object is to provide a switch operating mechanism comprising an extremely small number of parts, these parts being of simple design and adapted to be incorporated with a switch at a very low cost.

A very important object of the invention is to provide a switch operating mechanism which will occupy but little space, and is adapted to be disposed below the level of the rails and being especially applicable to street railways.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top plan view of the switch, Fig. 2 is a cross section on the line 2—2 of Fig. 1, Fig. 3 is a longitudinal sectional view of the device, showing a schematic elevation of the car operating means, Fig. 4 is a schematic plan of the car operating means, Fig. 5 is a cross sectional view of the switch and the operating lever engaged therewith to close the switch. Fig. 6 is an elevation of a detail of a modified form of operating mechanism.

Referring to the drawings, there is shown a track comprising rails 10 and switch points 11 of any suitable type. Formed between the track rails there is a U-shaped chamber

12 having its ends extending outwardly from the switch points, as shown. A suitable casing is disposed in the chamber being preferably of cast iron comprising end pieces 13 and 14, inner wall portions 15 and side pieces 17, all of which have an outwardly offset upper portion 18 providing a shoulder to support cover plates 19 as shown. It will be understood, however that the applicant will not be limited to any specific form of casing, as this is not an essential feature of the invention.

The wall 13 is provided with spaced bearings 20 each registering with a bearing carried by each of the walls 14. Each opposed pair of bearings 20 carries revolutely a shaft 21 extending longitudinally of the track and carrying pendent arms 22 adjacent the wall 13 and horizontal arms 24 adjacent the walls 14. Each of the arms 22 is provided at its lower end with a forwardly extending wrist pin 25 engaged outwardly of and loosely against a pendent shoulder 26 carried by a cross bar 27 secured to the switch points 11 and holding them in fixed spaced relation, so that they may be oscillated simultaneously to bring them alternately into engagement with the adjacent respective rails 10. The arms 24 at the opposite ends of the shafts 21 carry at their outer ends upwardly extending portions having a cross piece or operating heads 28 extending longitudinally of the track and presented slidably through a slot 29 cut through the inner portion 30 of the rail 10. It will be understood of course that necessary openings 31 are formed through the walls 17 for the oscillation therein of the ends of the bar 27 and the arms 24.

It will be seen that downward pressure upon either of the heads 28 will shift the switch points oppositely to deflect a truck in a direction corresponding to the side of the track upon which the operated head 28 is located.

Carried upon the lower portion of the car, there are brackets 40 carrying pivoted engaging members each comprising a lower engaging arm 41 invertly arcuate in shape and an integral operating arm 42 extending upwardly at an angle therefrom. The arm 41 is disposed to register directly with the flanges of the adjacent car wheels, so that it will be in position to strike the head 28 when deflected. Carried conveniently upon the



front platform of the car, there is a hand lever 50 suitably pivoted at its lower end and carrying a pulley portion 51 around which there is engaged a cable 52 extending downwardly beneath the pulleys 53, thence divergently to the opposite sides of the car and around spaced pairs of pulleys 54, as shown. Between each pair of pulleys 54 the cable is engaged with the upwardly extending arm 42 of the engaging member as shown.

It will be seen that upon oscillation of the lever 50 in one direction, one of the arms 41 will be deflected and the car will be directed upon a given track, and upon oscillation of the lever 50 in an opposite direction, the car will be directed upon a track extending divergently from the first one.

In Fig. 6 there is shown a modified form of the switch engaging mechanism, which comprises spaced brackets 40' carried upon the opposite sides of the car, and supporting therebetween a split shaft 43 having a universal joint 44 centrally thereof, and having at the opposite end the engaging arm 41' extending oppositely and longitudinally of the track, and a central operating arm 42' engaged with the cable 52' as shown. The cable in this form is carried from the pulleys 53 and around a single pulley 55 located rearwardly of the arm 42'. It will be seen that by the use of this form when the lever 50 is operated in one direction, the lever 42' rotates the shaft 43 and deflects the arm shank upon one side of the car, and upon oscillation of the lever 50 in the opposite direction the opposite arm will be depressed.

The applicant does not wish to be limited to the exact structure herein shown and described, when manufacturing this device, and it will be understood that changes in the construction may be made within the scope

of the claims to adapt the device to various conditions of use.

Any suitable connection may be made between the lever 50 and the operating member 41, including if necessary a system of levers, which any ordinary mechanic can construct.

What is claimed is:—

1. A railway switch comprising fixed outer rails and pivoted switch points, a cross bar engaged between the free ends of said points to hold them in fixed spaced relation, said cross bar having pendent shoulders thereon adjacent its ends, horizontal shafts revolubly mounted in spaced relation with the fixed rails, pendent arms engaged at their outer ends with said shoulders on the cross bar, horizontal arms carried by said shaft and means carried by rolling stock for deflection of said horizontal arms to shift the switch points.

2. A switch operating mechanism including a horizontal member adapted for engagement with a switch point, a horizontal shaft mounted revolubly and extending longitudinally of the switch, said shaft having a pendent arm engaged with the horizontal member, said shaft having also horizontal arms provided with an engaging portion adapted to be disposed adjacent to a rail to be engaged by an adjustable operating member carried by rolling stock, and adjustable means carried by rolling stock for operating said horizontal member.

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

GEORGE FLESSA.

Witnesses:

JOHN ALBERT PETERSON,  
AXEL WILHELM PETERSON.