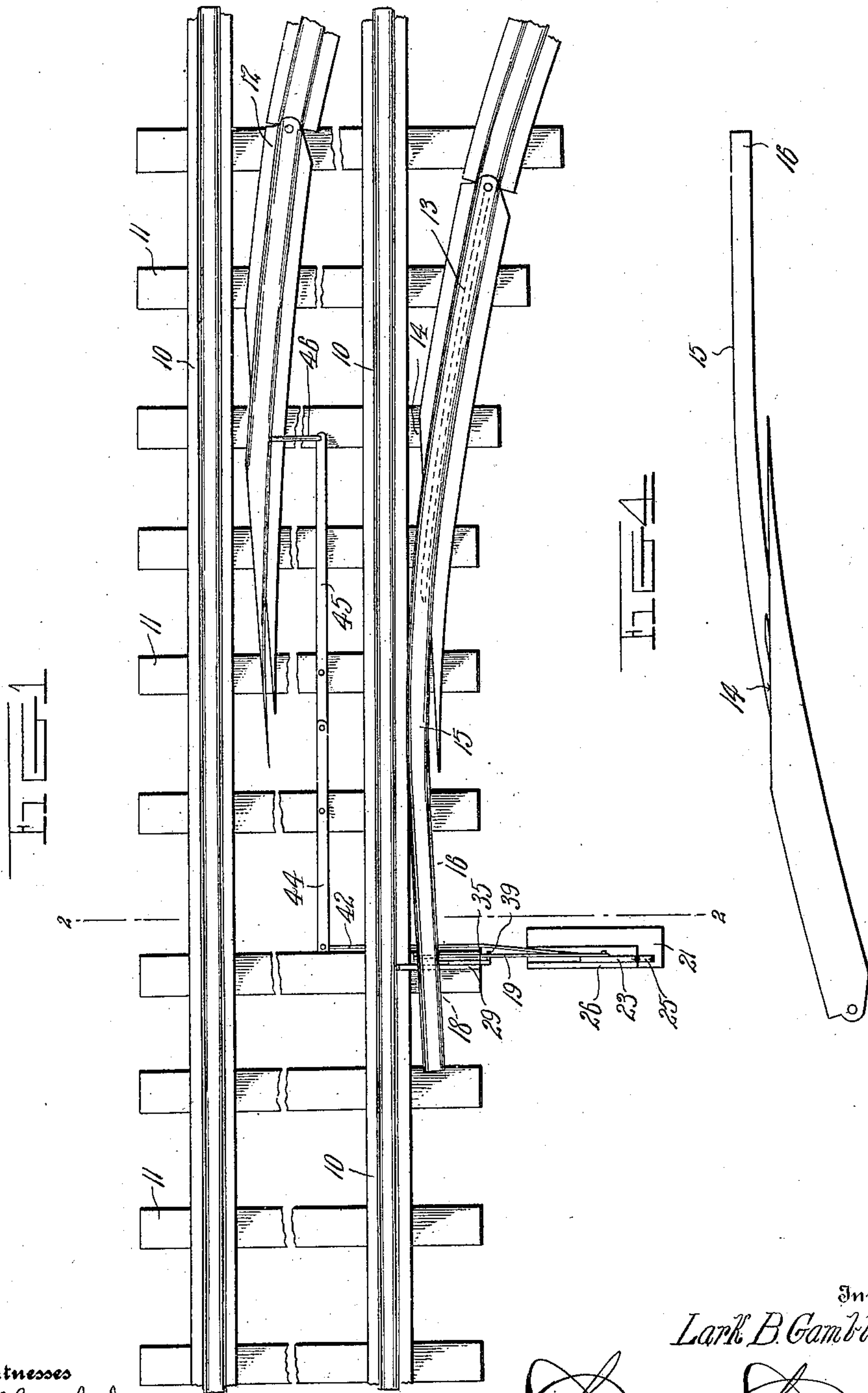


L. B. GAMBLE.
 SWITCH MECHANISM.
 APPLICATION FILED JAN. 5, 1909.

917,284.

Patented Apr. 6, 1909.

2 SHEETS—SHEET 1.



Witnesses
 J. H. Crawford
 W. H. Mullis

By

Lark B. Gamble
 Lark B. Gamble

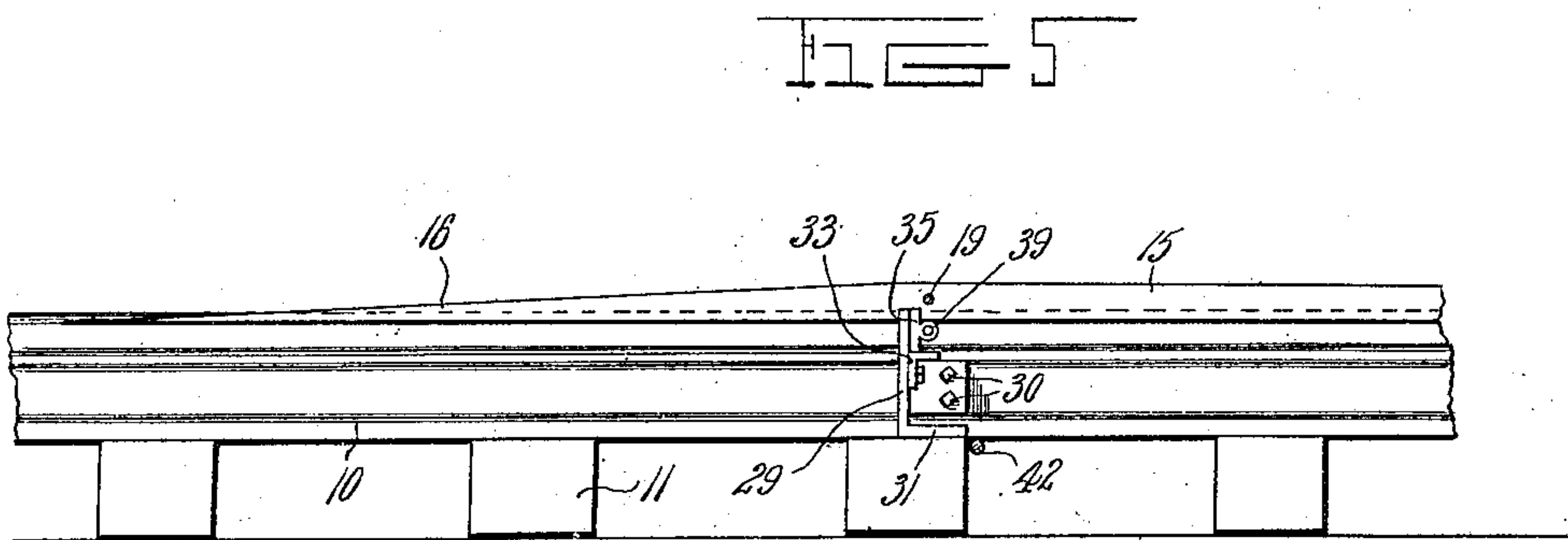
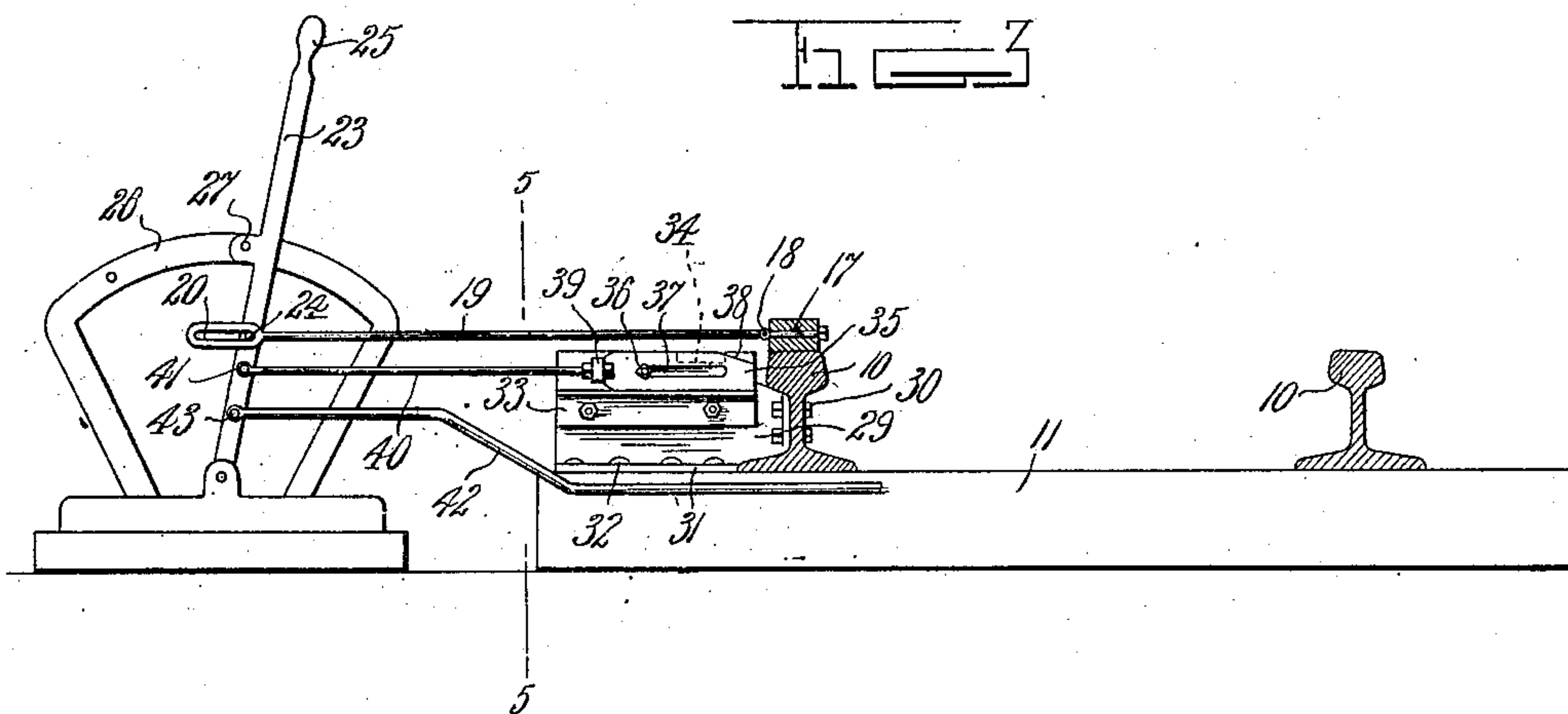
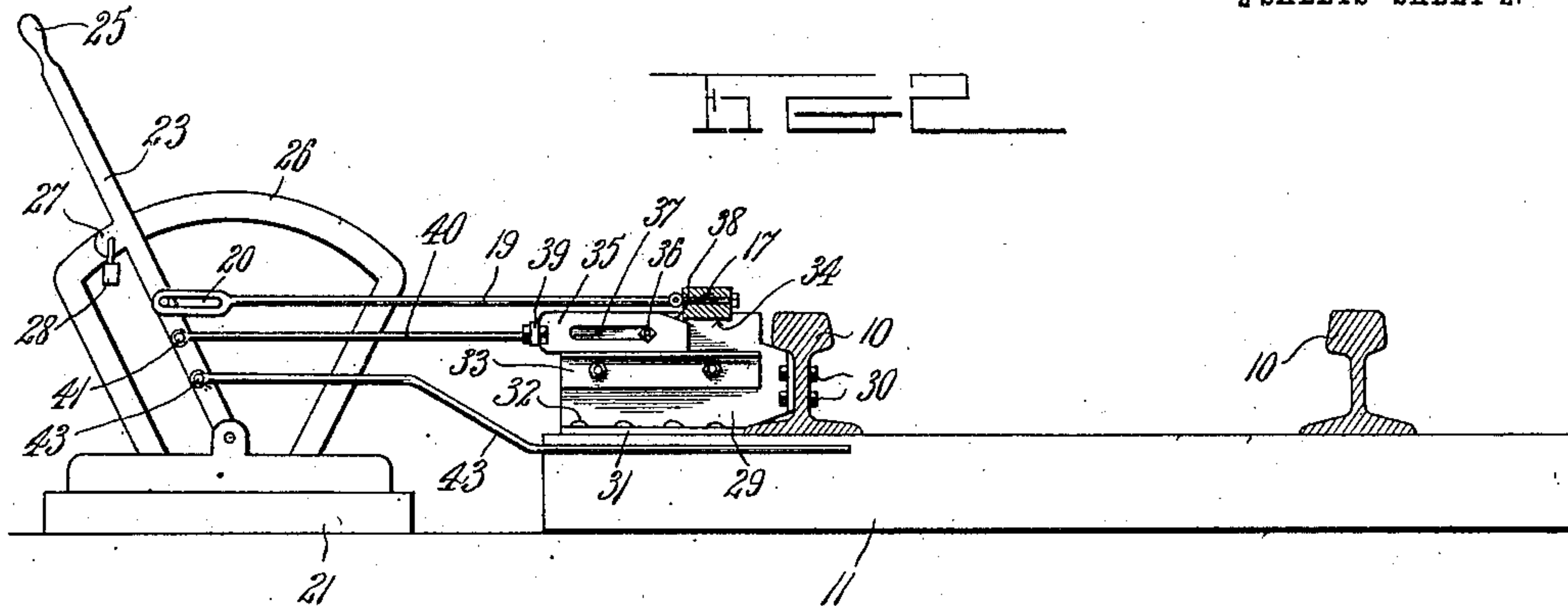
Inventor

Attorneys

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Witnesses
 J. H. Crawford
 W. H. Miller

Inventor
 Lark B. Gamble
 364
 Attorneys

UNITED STATES PATENT OFFICE.

LARK B. GAMBLE, OF NEWPORT, ARKANSAS.

SWITCH MECHANISM.

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Specification of Letters Patent.

Patented April 6, 1909.

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To all whom it may concern:

Be it known that I, LARK B. GAMBLE, a citizen of the United States, residing at Newport, in the county of Jackson, State of Arkansas, have invented certain new and useful Improvements in Switch Mechanisms; 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.

This invention relates to railroad switches and has special reference to a form of switch and actuating mechanism therefor designed to leave the main line rails integral.

One object of the invention is to provide an improved form of switch point for use with such a switch.

Another object of the invention is to provide an improved means for limiting the inward movement of such a switch point.

A third object of the invention is to provide a novel means of holding the switch point from accidental displacement when it is desired to leave the main line rails clear.

A fourth object of the invention is to provide a novel actuating mechanism for throwing a switch of this character.

With the above and other objects in view, the invention consists, in general, of a novel form of switch point together with certain improvements in the throwing and locking mechanisms.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—

Figure 1 is a top plan view of a section of railroad track provided with a switch constructed in accordance with this invention. Fig. 2 is an enlarged cross sectional view on the line 2—2 of Fig. 1 showing the switch in the open position. Fig. 3 is a view similar to Fig. 2 showing the switch in the closed position. Fig. 4 is an enlarged bottom view of the improved switch point used in connection with this invention. Fig. 5 is a view on the line 5—5 of Fig. 3.

The numeral 10 indicates the main line rails of an ordinary track and these rails are constructed in the ordinary manner. The

rails 10 are supported upon suitable ties 11 as is common in devices of this character.

At 12 is indicated a switch point of the ordinary construction, this being what is preferably termed the inside switch point. The outside switch point is of improved character and consists of a body portion 13 formed of an ordinary rail and this body portion is cut away as indicated at 14, the flange adjacent the main line rail being removed and the webs beveled. Beyond this beveled portion the head of the rail is extended forward as indicated at 15 and terminates in a downwardly tapered end 16. The cut away portion is so proportioned with reference to the extended end 15 and point 16, that this head and point will lie on top of the rail 10 adjacent the outside switch point when the beveled flange and web contact with said rail. This beveled flange and web thus act as a stop to prevent the point 16 being thrown too far over the head of the rail 10. For the purpose of throwing this switch, the rail head 15 is provided with a transverse perforation 17 and in that perforation is held an eye bolt 18. Attached to the eye bolt 18 is a switch rod 19 the free end of which is slotted as at 20 for purposes to be hereinafter described. At 21, is provided a switch stand of the ordinary construction to which is pivoted a switch lever 23 provided with a pin 24 which engages the slotted end 20 of the switch rod 19. The switch lever 23 is further provided with the ordinary handle 25 and the switch stand may be equipped with a locking quadrant 26, the lever being provided with a locking eye 27 adapted to be engaged by a lock 28 of ordinary construction. Opposite the switch lever 23 a guide plate 29 is secured to the rails 10 by means of suitable bolts 30 and this guide plate is further provided with a bottom flange 31 secured by suitable screws 32 to one of the ties. An angle plate 33 is bolted to this guide plate and the plate 29 is so arranged that the top edge thereof is on a level with the top of the head of the rail 10 to which it is attached. The plate 29 is further provided with a notch 34 adapted to receive the rail head 15 when the same is pulled away from the head of the rail 10 by the switch rod 19.

In order to raise the rail head 15 from the notch 34 when it is desired to position it over the head of the rail 10, there is provided a plate 35 which rests on the angle plate 33,

being held in proper position by means of a bolt 36 moving in a slot 37 formed in the plate 35. The plate 35 is provided with a beveled end 38 adapted to project beneath the rail head 15 and raise the same as said plate is moved toward the rail 10. Upon the end of the plate adjacent the switch lever there is provided an outwardly projecting eye 39 through which passes a rod 40 which is held within the eye 39 by means of suitable nuts. This rod 40 extends to the switch lever 23, being connected thereto by means of a suitable pin 41.

Considering now the operation of this portion of the device, let it be supposed that the outside switch point is in the position shown in Fig. 2. If the lever handle 25 be moved toward the right of that figure, the lifting plate 35 will simultaneously move therewith. Meanwhile, the pin 24 will move along the slot 20. When the plate 35 has been moved sufficiently far to the right to lift the rail head 15 clear of the notch 34, the pin 24 will be in contact with the end of the slot 20 adjacent the rail head 15. The parts being in this position, the rail head 15 will then be slid, by further movement of the lever 23, toward the right and positioned over the head of the rail 10, the beveled portion 14 acting as a stop to limit that motion. This places the parts in the position indicated in Fig. 3. Precisely the reverse of this operation takes place when the switch is opened, the plate 35 being first moved and then the rail 15.

In order to actuate the switch point 12 there is provided a switch rod 42 which is connected to the switch point 12 by means of levers 44 and 45 and a link 46 and has its other end connected to the lever 23 by means of a pin 43 or the like. It will be obvious from these connections that the switch point 12 will be moved to the open or closed position according as the switch lever 23 is moved. It will be observed from an inspection of Fig. 1 that the point 15 has the end 16 well in advance of the point 12. The object of this is to permit the flange of a wheel to clear the rail 10 on which the point 15 is located before the flange of the other wheel on the same axle strikes the switch point 12.

It is obvious that many minor changes may be made in the form and construction of this invention without departing from the material principles thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope of the appended claims.

Having thus described the invention, what is claimed as new, is:—

1. In a railway switch, a pair of continuous main line rails, an inside switch point between said main line rails and arranged to be

positioned against the side of one of the main line rails, an outside switch point outside of and adjacent the other rail adapted to be positioned on top of the head thereof, a plate over which said outside switch point moves provided with a notch adapted to receive the point when the same is moved thereover, and means to raise said point and position the same over the main line rails.

2. In a railway switch, a pair of continuous main line rails, an inside switch point between said main line rails and arranged to be positioned against the side of one of the main line rails, an outside switch point outside of and adjacent the other rail adapted to be positioned on top of the head thereof, said outside switch point having its end in advance of the inside switch point, a plate over which said outside switch point moves provided with a notch adapted to receive the point when the same is moved thereover, and means to raise said point and position the same over the main line rails.

3. In a railway switch, a pair of continuous main line rails, an inside switch point between said main line rails and arranged to be positioned against the side of one of the main line rails, an outside switch point outside of and adjacent the other rail adapted to be positioned on top of the head thereof, said outside switch point having a portion of the web and flanges cut away and bevels on the remainder forming a stop and limiting the inward movement of the point relative to the main line rails, a plate over which said outside switch point moves provided with a notch adapted to receive the point when the same is moved thereover, and means to raise said point and position the same over the main line rails.

4. In a railway switch, a pair of continuous main line rails, an inside switch point between said main line rails and arranged to be positioned against the side of one of the main line rails, and an outside switch point outside of and adjacent the other rail adapted to be positioned on top of the head thereof, said outside switch point having its end in advance of the inside switch point and having a portion of the web and flanges cut away and bevels on the remainder forming a stop and limiting the inward movement of the point relative to the main line rails, a plate over which said outside switch point moves provided with a notch adapted to receive the point when the same is moved thereover, and means to raise said point and position the same over the main line rails.

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

LARK B. GAMBLE.

Witnesses:

H. G. BRANDENBURG,
J. M. WICKENS.