

No. 816,647.

A. N. CONNETT.

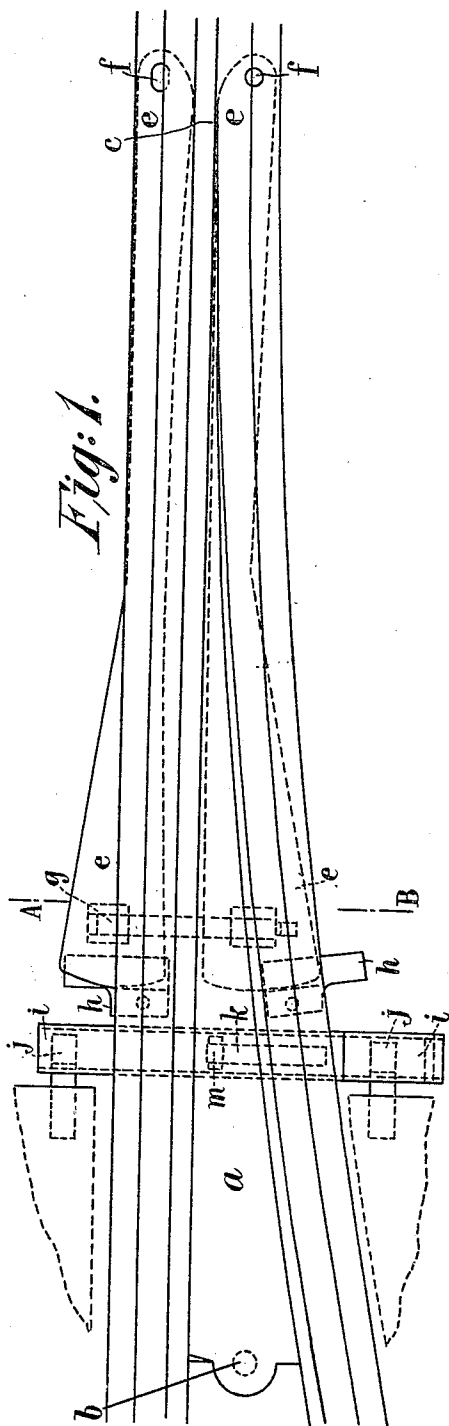
PATENTED APR. 3, 1906.

POINT OR SWITCH FOR ELECTRIC TRAMWAYS WORKING UPON THE SLOT
CONDUIT SYSTEM.

APPLICATION FILED AUG. 24, 1905.

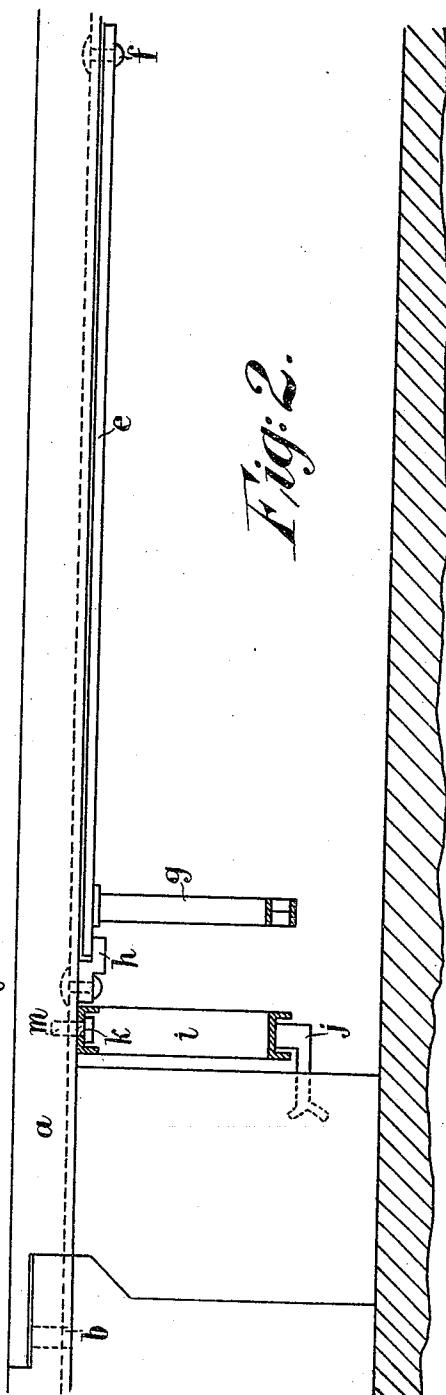
2 SHEETS—SHEET 1.

Fig:1.



Witnesses
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Fig:2.



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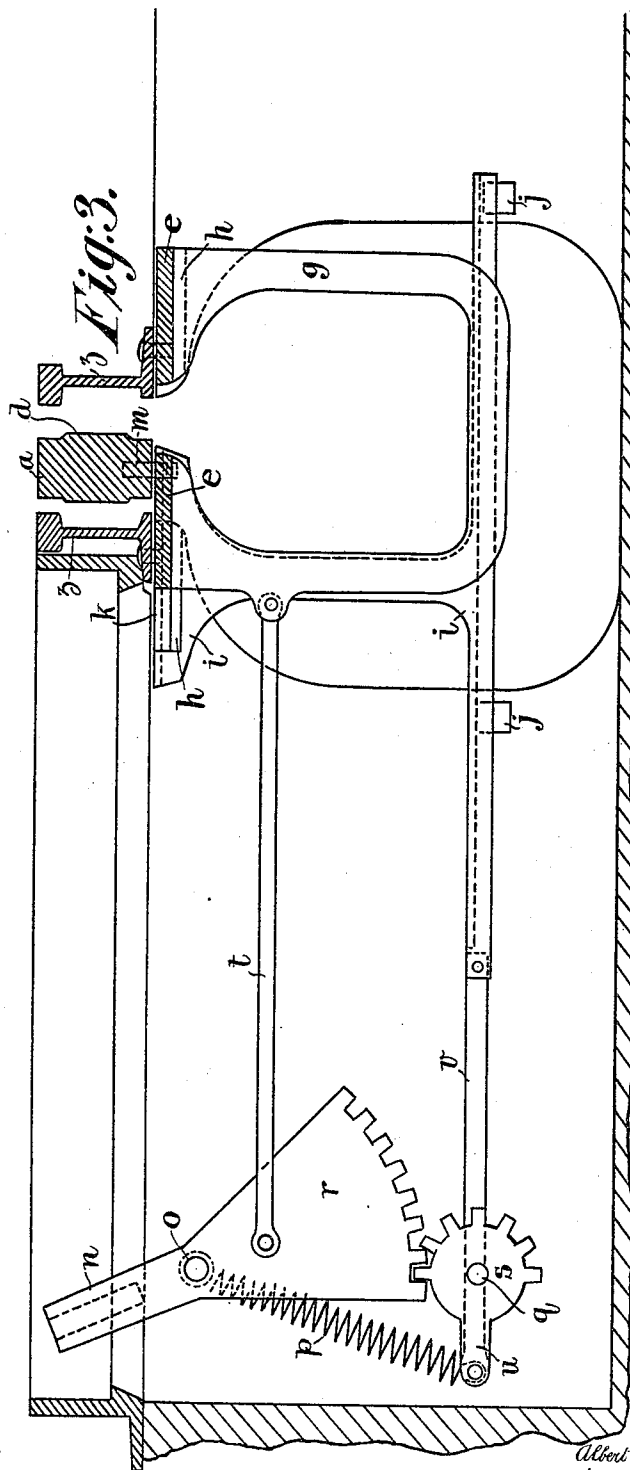
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ALBERT NEUMANN CONNETT, OF LONDON, ENGLAND, ASSIGNOR TO J. G. WHITE AND COMPANY, INCORPORATED, OF NEW YORK, N. Y.

POINT OR SWITCH FOR ELECTRIC TRAMWAYS WORKING UPON THE SLOT-CONDUIT SYSTEM.

No. 816,647.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed August 24, 1905. Serial No. 275,636.

To all whom it may concern:

Be it known that I, ALBERT NEUMANN CONNETT, electrical engineer, a citizen of the United States of America, residing at 22^a College Hill, Cannon street, in the city and county of London, England, have invented new and useful Improvements Relating to Points or Switches for Electric Tramways Working upon the Slot-Conduit System, of which the following is a specification.

This invention relates to points or switches for use in electric tramways having an underground conduit arranged either beneath the slot of one of the rails upon which the car-wheels travel or in a position between the wheel-rails.

It is the object of this invention to provide adequate means for supporting the upper tongue in both of its positions, said means comprising two lower tongues and an arrangement whereby the lower tongues are moved in the opposite direction to the upper tongues in reversing the point.

The details of this invention are more particularly described in the following specification, and the novel features are pointed out by the claims at the end thereof.

The new construction according to this invention makes it possible to give a comparatively small movement to the yoke which operates the point.

Another advantage of the construction is that it permits of the use of the ordinary slot-rail for the two outside rails at a switch-point in the track, whereby the construction of the point is simplified and cheapened, while fewer special castings than usual are required.

In the accompanying drawings, Figure 1 is a plan view of a point constructed in accordance with this invention. Fig. 2 is a side elevation of the same, while Fig. 3 shows a cross-section on the line A B of Fig. 2 and also illustrates a mechanism for operating the point.

The tongue *a* is pivoted at *b*, and at or near the point *c* of this tongue two flat supporting-tongues *e* are pivoted at *f*. These tongues are rigidly connected together, with a certain gap between them, by means of a yoke *g*, and their free ends are supported by projecting pieces or guides *h*, fastened beneath the slot-rails *z*. For moving the tongue *a* a standard *i* is provided, adapted to slide horizontally

across the conduit on guides *j*, and said standard has a slot *k* in its upper surface, in which engages a pin *m*, projecting downwardly from the tongue *a*.

The supporting-tongues *e* are required to be moved simultaneously and in opposite direction to the point-tongue *a*. This may be effected by the mechanism illustrated in Fig. 3. At one side of the conduit is provided a pit, wherein a toothed sector *r* is pivoted at the point *o*. The upper end *n* of this toothed sector has a socket therein adapted to receive a bar, whereby the sector may be turned.

s is a pinion pivoted at *q* and engaged by the teeth of the sector. This pinion is toothed for a portion of its circumference only and is provided with a rearward arm or projection *u*, connected by a link *v* with the standard *i*.

A spring *p*, connected at one end to the pivot *o* or any other suitable point, also pulls upon the end of the arm *u* to insure that said arm shall complete its movement in either direction. A bar *t* connects the sector *r* with the maneuvering-yoke *g*. With this device it will be seen that when the socket *n* of the sector is thrown over toward the point the part *r* will move toward the left, drawing the yoke *g* to the left and so moving the left-hand tongue *e* away beneath the left-hand slot-rail *z*, while bringing the right-hand tongue *e* outward from beneath the right-hand slot-rail. Simultaneously the pinion *s* will be turned through a half-revolution, and the standard *i* will be moved across from one side of the point to the other, the end of its slot *k* finally moving over the tongue *a*, owing to the engagement of the pin *m* in said slot. The point will then be open for the passage of a vehicle around the curve, Fig. 1, while the supporting-tongue *e* and the standard *i* will be in such a position as to leave a gap for the passage of the plow beneath the slot left between the point *a* and the left-hand rail *z* in Fig. 3. It will be noticed that the link *v* is horizontal in either of the extreme positions of the operating mechanism and that said link is held in these positions by the action of the spring *p*. The point is therefore locked against any movement not resulting from its proper operation by means of a bar inserted in the socket *n*. If the conduit is in the center of the track between the rails or elsewhere not beneath one

of the rails, the same form of point may be used as is described above; but the car-wheels will not then run upon the upper tongue *a*.

It is to be understood that the operating mechanism above described is given by way of example only and that any other suitable mechanism might be employed which would simultaneously operate to move the yoke and supporting-tongues in one direction while turning the point-tongue in the other direction.

What I claim is—

1. In a point for slot-conduit tramways the combination with the fixed point-casting and rail-tracks, of an upper tongue pivoted in said casting, two broad lower tongues pivoted under the slot-rails at opposite sides of the slot near the free end of the upper tongue, means connecting together said lower tongues in such manner that they must move simultaneously, means for supporting each of the lower tongues, and means for operating the upper and lower tongues in such a manner that when the upper tongue is moved in one direction the lower tongues are simultaneously moved in the opposite direction whereby a support is provided for the upper tongue, while the slot is left clear for the passage of the plow in the required direction.

2. In a point for slot-conduit tramways the combination with the fixed point-casting and rail-tracks, of an upper tongue pivoted in said casting, two broad lower tongues pivoted under the slot-rails at opposite sides of the slot near the free end of the upper tongue, a yoke-piece connecting together said lower tongues at a fixed distance apart, a standard, pin-and-slot connecting means between said standard and the upper tongue and operating mechanism adapted to simultaneously move the standard in one direction across the point and move the yoke in the other direction whereby the upper tongue is moved across the point in the opposite direction to the two lower tongues, and the slot is left open for the passage of the plow in the required direction, while the upper tongue is supported by one of the lower tongues.

3. In a point for slot-conduit tramways the combination with the fixed point-casting and rail-tracks, of the upper tongue pivoted in the casting, the two lower tongues pivoted under the slot-rails at opposite sides of the slot near the free end of the upper tongue, and means for simultaneously moving the two lower tongues across the point while moving the upper tongue in the opposite direction whereby one of the lower tongues is brought beneath the upper tongue to support the same and the slot is left open for the passage of the plow in the desired direction.

4. In a point for slot-conduit tramways the combination with the fixed point-casting, the upper tongue *a* pivoted in said casting, and the lower tongues *e e* pivoted at *f f* of the yoke *g* connecting the lower tongues at a fixed distance apart, the standard *i*, pin-and-slot connecting means between said standard and tongue *a*, and operating mechanism adapted to move the yoke and lower tongues in one direction while simultaneously moving the standard and upper tongue in the opposite direction, substantially as described.

5. In a point for slot-conduit tramways the combination with the fixed point-casting, the upper tongue *a* pivoted in said casting, the lower tongues *e e* and means for supporting same, a yoke *g* connected to said lower tongues, and the standard *i* with means operatively connecting it to the upper tongue, of operating mechanism adapted to move the yoke in one direction, while simultaneously moving the standard in the opposite direction across the point, said operating mechanism being such that the yoke holds the point locked in either of its extreme positions unless moved by the operating mechanism, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT NEUMANN CONNETT.

Witnesses:

WILLIAM CORWIN BURTON,
JOHN BEAVER WHITE.