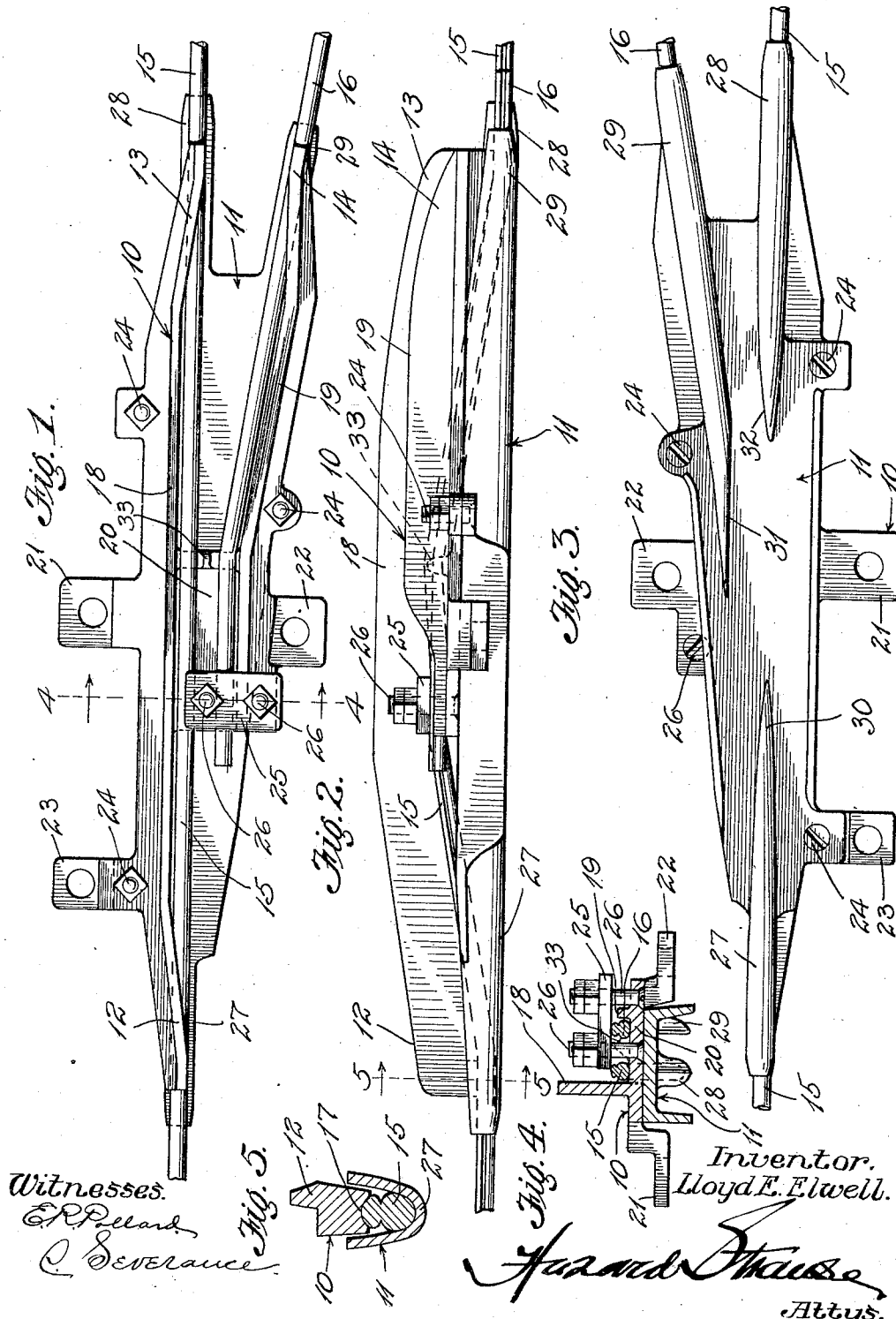


1,059,131.

Patented Apr. 15, 1913.

2 SHEETS—SHEET 1.



Witnesses.
E. P. Pelland
C. Deverance

Inventor.
Lloyd E. Elwell.

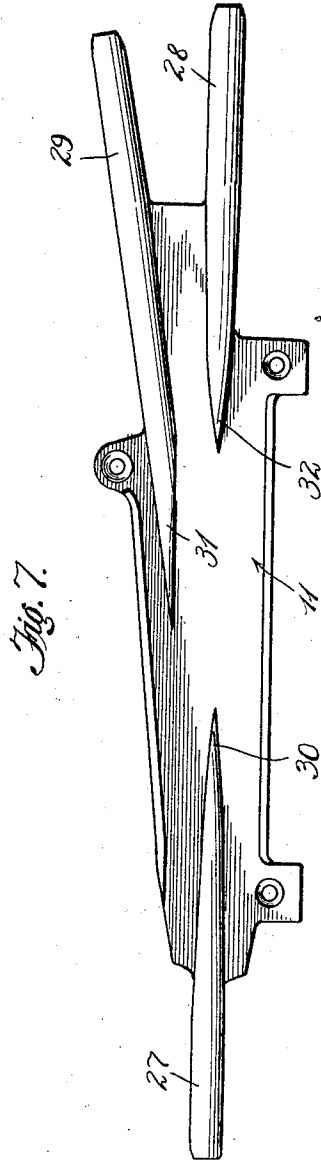
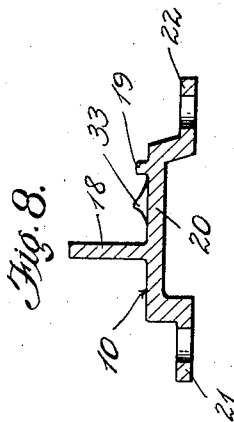
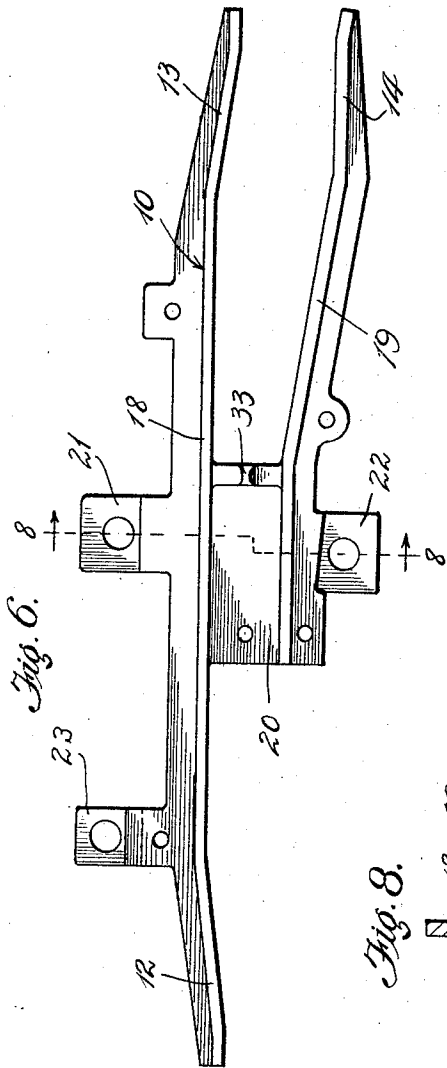
Harold Thouse
Attys.

L. E. ELWELL.
TROLLEY SWITCH.
APPLICATION FILED JULY 29, 1911.

1,059,131.

Patented Apr. 15, 1913.

2 SHEETS—SHEET 2.



Witnesses:

E. R. Peard
C. Severance

Inventor.
Lloyd E. Elwell.
by

Arthur H. Shaw
Attys.

UNITED STATES PATENT OFFICE.

LLOYD E. ELWELL, OF LOS ANGELES, CALIFORNIA.

TROLLEY-SWITCH.

1,059,131.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed July 29, 1911. Serial No. 641,271.

To all whom it may concern:

Be it known that I, LLOYD E. ELWELL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Trolley-Switches, of which the following is a specification.

This invention relates to improvements in trolley switches and particularly to such as are adapted for clamping and holding the trolley wires of an overhead trolley system at the points where a switch or cross over is arranged.

It is an object of the invention to provide a trolley switch which may be readily and quickly clamped in position.

It is also an object of the invention to provide a switch mechanism formed of separable plates for gripping the wires at a trolley switch and clamping them in position, the structure being such that the parts may be quickly put in place or taken apart as required.

It is a further object of the invention to provide a trolley switch with upper and lower plates adapted to secure the trolley wires of a switch without the necessity of welding, soldering or other similar operation, one of said plates also constituting a hanger for the said wires.

In the accompanying drawing forming a part of this specification Figure 1 is a top plan view of a switch constructed in accordance with the present invention. Fig. 2 is a side elevation of the same. Fig. 3 is a bottom plan view of the switch. Fig. 4 is a transverse vertical sectional view taken upon the line 4—4 of Fig. 1. Fig. 5 is a similar transverse sectional view taken upon the line 5—5 of Fig. 2. Fig. 6 is a top plan view of the upper wire carrying plate of the device. Fig. 7 is a bottom plan view of the lower or switch plate of the device. Fig. 8 is a transverse sectional view through the upper plate, taken upon the line 8—8 of Fig. 6.

The details of the invention will now be more particularly described reference being had to said drawing in which 10 indicates an upper plate or suspending member and 11 a lower plate or trolley guiding member.

The switch mechanism may be made to fit any kind of a switch or cross over mechanism upon overhead trolley systems and is formed with a suitable number of branches

or extensions to extend out upon and clamp the wires which approach or come together at the said switch or cross-over. The plates of the switch mechanism as illustrated in the drawing are arranged to fit a switch where a wire branches off from a main line.

As illustrated in the drawing the upper plate 10 is formed with end projections 12, 13 and 14, the projections 12 and 13 extending over the unbroken trolley wire 15 while the projection 14 extends outwardly over the end of the switch wire 16. The central portion of the plate 10 is arched above the normal position of the wire as clearly shown in Fig. 2 while the said end portions 12, 13 and 14 are brought downwardly to the usual level of the wire and bear upon the upper surface thereof. The said end portions are also formed upon their under surfaces with notches or concave portions 17 as clearly shown in Fig. 5 for fitting upon and gripping the trolley wires. The upper plate and the said projections are strengthened by means of vertically projecting ribs 18 and 19, which, for the greater portion of their length, extend along to one side of the wires but at the ends project inwardly over the wires as clearly illustrated in Fig. 1. The plate is reduced at the center having a transverse neck portion 20 upon which the trolley wires rest. The upper plate 10 is provided with lateral projections 21 and 22 and 23 which are apertured and adapted to receive the guy wires by which the switch is suspended in position. The upper and lower plates are fastened together by means of bolts 24 which extend through coinciding apertures formed in the said plates. The end of the switch wire 16 rests upon the neck 20 of the upper plate and a clamping plate 25 is placed upon the same and drawn down tightly against the switch wire and also against the adjacent through wire by means of the bolts 26 which extend through the upper plate 10 as shown in Fig. 4. The wires are separated by a projection 33 upon said neck 20 and also by one of the bolts 26, to hold the said wires more securely in position. Both of said wires are thus centrally clamped upon the upper plate and both of said wires are additionally clamped in the switch between the upper and lower plates by the projections 12, 13 and 14. The under plate 11 is formed with elongated recessed portions 27, 28 and 29 in which the wires rest, the upper surface of the said portions

being properly concaved to receive the said wires and to receive the ends of the upper plate as illustrated in Fig. 5. The under surface of said recessed portions project 5 downwardly and are tapered to form the switch points 30, 31 and 32 as illustrated in Fig. 3.

It will be evident that the switch plate may be altered in shape to fit any switch 10 or cross over without departing in the least from the spirit of the invention. It will also be understood that the portions of the switch mechanism may be quickly slipped upon the wires and be clamped together for 15 forming the switch and that they may also be as quickly removed when it is necessary. This is an important factor in such devices, especially upon city car lines where repairs to the trolley wire must be quickly made in 20 order not to block travel upon the lines.

What I claim is:

1. A trolley mechanism, comprising a wire securing upper plate having a central transverse portion over which the wires pass and 25 projecting ends, means for securing the wires on the central portion, the wires extending beneath the ends of said plate, a

trolley guide switch plate having wire receiving grooves in the end portions thereof, the ends of the upper plate serving to hold 30 the wires in said grooves.

2. A trolley switch mechanism comprising an upper wire holding and clamping plate having a central portion over which the 35 wires pass, means for clamping the said wires at said central portion, the ends of said plate being bent inwardly so as to rest upon the upper surface of the wires, and a removable switch plate having trolley guid- 40 ing means thereon, and having grooves for fitting upon the wires, the said switch plate being adapted to be removably clamped upon the under side of the wire supporting 45 plate, the said wire supporting plate being also provided with attaching lugs by which it may be suspended in position.

In witness that I claim the foregoing I have hereunto subscribed my name this 24th day of July, 1911.

LLOYD E. ELWELL.

Witnesses:

E. STADLMAN,
EARLE R. POLLARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."