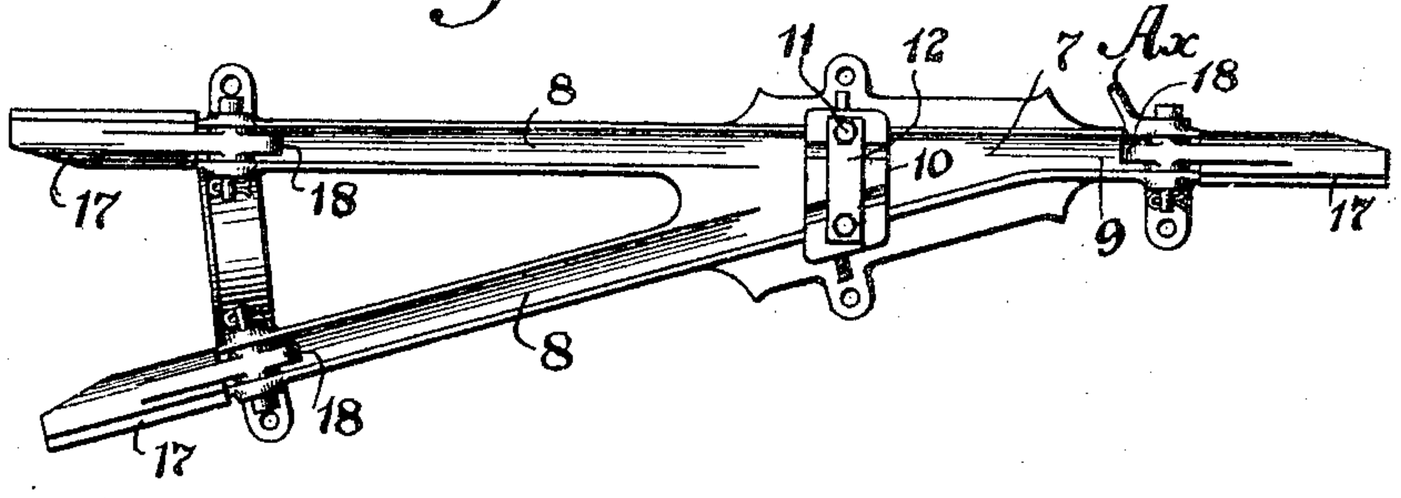
E. E. GILMORE.

OVERHEAD CONSTRUCTION FOR ELECTRIC RAILWAYS.

APPLICATION FILED JULY 18, 1907.

944,186. Patented Dec. 21, 1909.

Fig. 1.



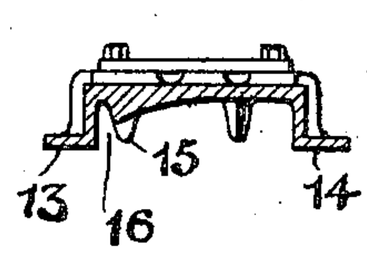


Fig. 2

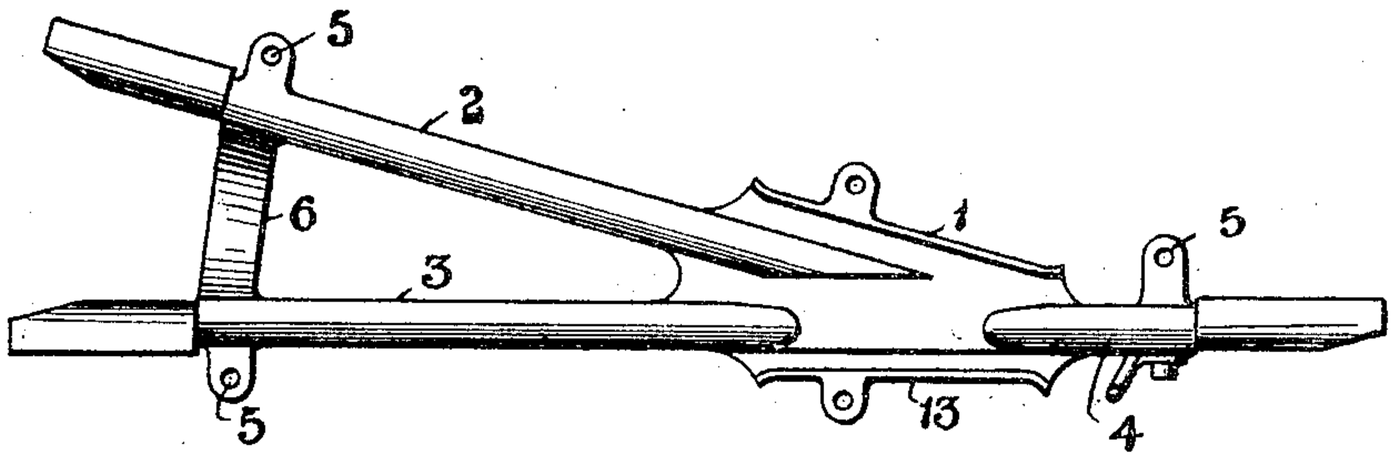


Fig. 3.

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OVERHEAD CONSTRUCTION FOR ELECTRIC RAILWAYS.

944,186. Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed July 18, 1907. Serial No. 384,449.

To all whom it may concern:

Be it known that I, EDWARD E. GILMORE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Overhead Construction for Electric Railways, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to overhead construction for electric railways, and especially to the apparatus employed for overhead switching and guying.

Briefly stated, the invention comprises a certain system of arranging switches and wires so that there shall be a balance of strains as long as the trolley wires are in normal condition, the system being moreover protected from derangement in the event of their becoming broken. Heretofore it has been difficult to bring in branch trolley wires and connect them to a line wire, without producing irregular or lateral strains on the latter. According to my present system and arrangement, a branch trolley wire throws no strain on the main wire and in no wise disturbs the balance of the system, while being itself securely anchored. This condition is brought about through head-guying the branch trolley wire itself, and instead of making the switch a support therefor, reversing this procedure and making the branch wire steady and support the switch. All terminal strain due to the branch wire is taken up by its own steel cable, which serves as part of the system of guys for the switch and the main trolley wire.

The present application in so far as it relates to the overhead switch as such, is a continuation of my copending application No. 280,319, filed September 27, 1905, in which certain features of said switch are claimed. The claims in the present case are directed to certain other features of the switch by which it is particularly adapted to the foregoing system of head guying, rendering it generally applicable however to any system in which the branch wire can be passed across the switch body.

My invention is illustrated in the accompanying drawings in which—

Figures 1, 2 and 3 are views of my switch, being respectively a top plan view, a cross section on the line x—x, and a bottom plan view.

Referring to the drawings, 1 represents the body of my switch which is relatively large and is provided with extended arms 2, 3 and 4 cast as a part of the body and provided with lugs 5 adapted to receive the supporting and guy wires as indicated by dotted lines in Fig. 1. The arms 2 and 3 diverge from a point near the center of the body 1 and are connected near their ends by a bridge 6 which, should the trolley jump the wire, prevents the pole from jamming between the arms. On the arm 4 I provide the hook $A^{\times}$ extending laterally and downwardly, and adapted to receive beneath it a branch trolley wire supposed to be led through the channel 8 in the arm 2 and clamped in place by the transverse member 12. The main trolley wire is supposed to be led through the channels 8 in the arms 3 and 7 in the body, being clamped in a similar manner by the member 12. It passes out over the arm 4, the branch wire crossing over or under it at the junction of this arm with the body, being then led away from the switch substantially in line with the arm 2 and secured to a proper anchorage such as a street pole. This not only takes up the strain of the branch, but enables the hook $A^{\times}$ to steady the switch body and partly support it. The wires are not illustrated herein as they form no direct part of the present invention, but it is thought this explanation will render their arrangement sufficiently clear.

I believe that I am the first to devise a satisfactory scheme for head guying an overhead curve so as to produce the results stated, also that I am the first to devise a practical form of switch wherein and whereby the strain on the branch wire is independently carried while the means for transmitting this strain serve to steady and support the switch, and keep it level.

Regarding the mechanical features of the switch only, it constitutes a valuable improvement over those heretofore in use. The hook $A^{\times}$ which maintains it level and steady, enables the device to be put in position and the trolley wires attached to it with a minimum expenditure of time and labor.

I am aware that some changes and modifications may be made in matters of detail in this apparatus, and I wish it distinctly

understood that all non-essential changes and modifications are within the scope of my claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. An overhead switch structure for electric railways comprising a body having main line and branch extensions with grooves in their upper faces for receiving and holding the trolley wires, supporting eyes on the body, and a hook extending downwardly and outwardly from the side of the body and receiving a curve trolley wire to hold the switch level and to assist in head guying the curve wire to a near pole.

2. An overhead switch structure for electric railways comprising a body having main line and branch extensions, with grooves for receiving and holding a main trolley wire and a branch trolley wire, guying lugs on the body, and a lateral hook extending from one side thereof for receiving a branch trolley wire to hold the switch level and to assist in head guying the branch wire to a near pole.

3. An overhead switch for branch connections of electric railways comprising a body, means for securing main and curve trolley wires thereto, and a lateral hook adapted to extend over and rest upon a curve trolley wire to hold the switch level and to assist in head guying the curve wire to a near pole.

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

EDWARD E. GILMORE.

Witnesses:

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