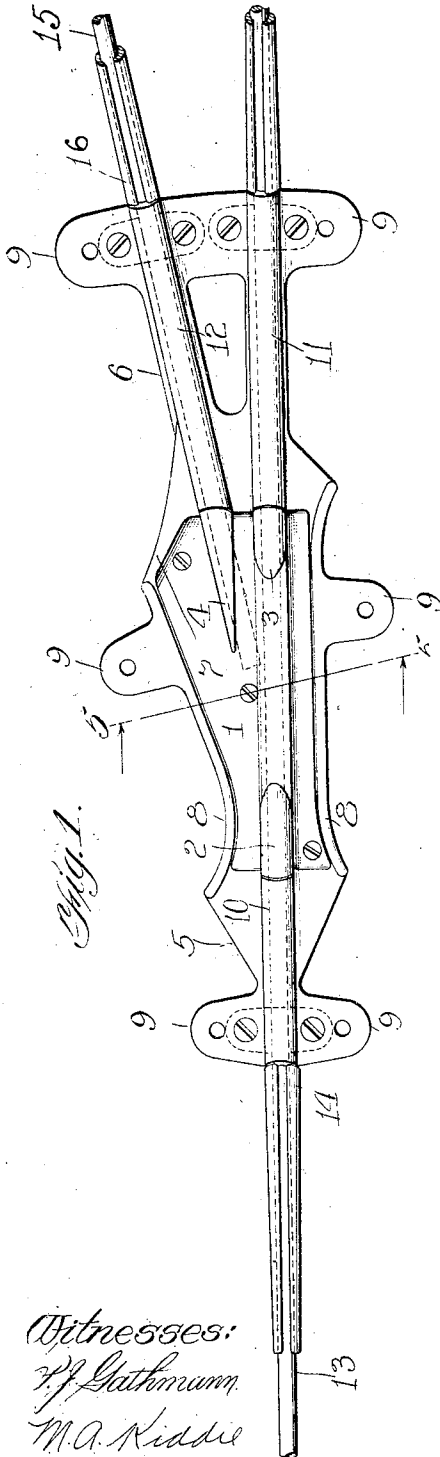


W. M. SIMPSON.
OVERHEAD TROLLEY SWITCH AND CROSSOVER.
APPLICATION FILED AUG. 20, 1909.

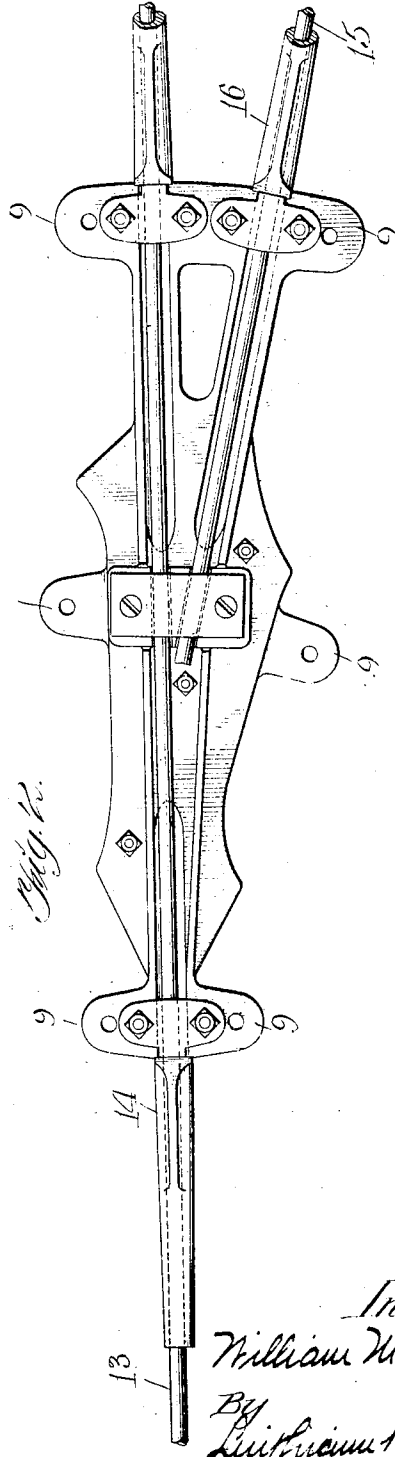
1,042,615.

Patented Oct. 29, 1912.

5 SHEETS-SHEET 1.



Witnesses:
H. G. Latham,
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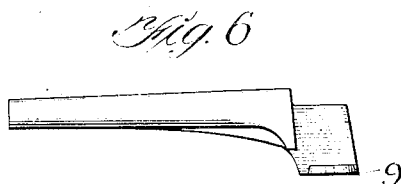
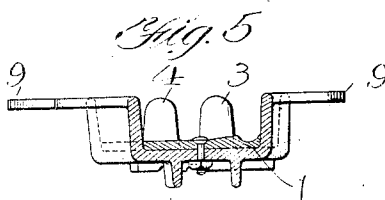
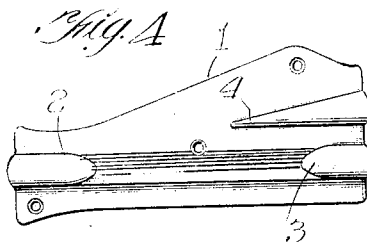
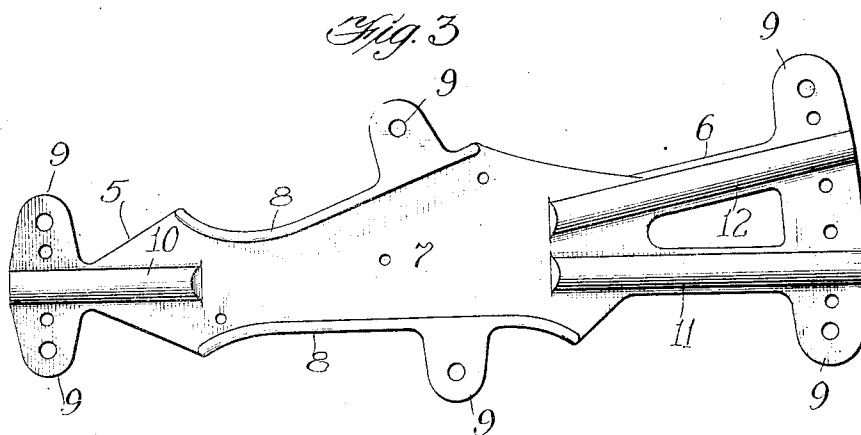
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5 SHEETS-SHEET 2.



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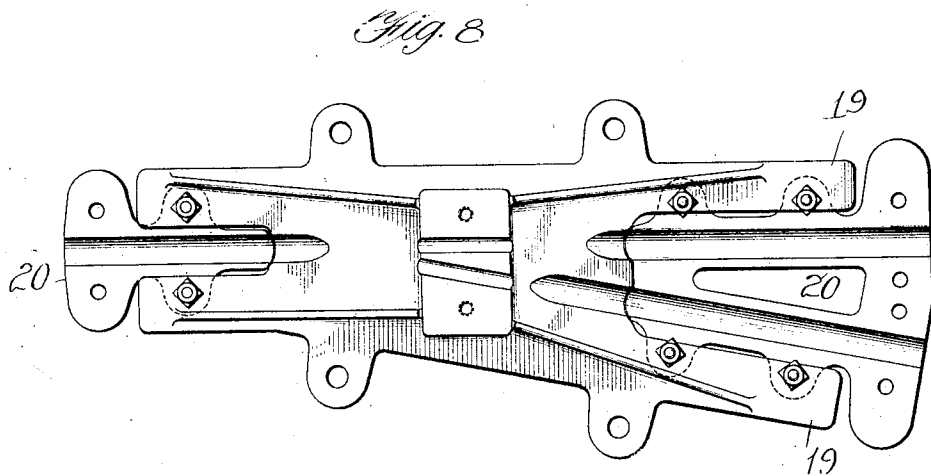
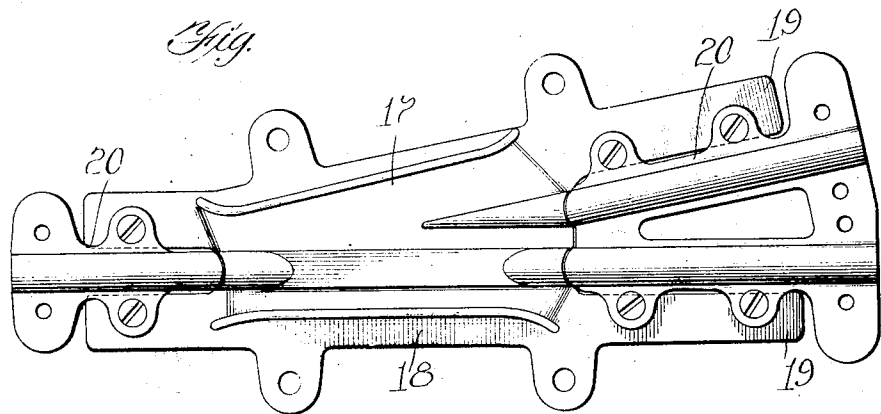
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APPLICATION FILED AUG. 20, 1909.

1,042,615.

Patented Oct. 29, 1912.

5 SHEETS—SHEET 3.



Witnesses:
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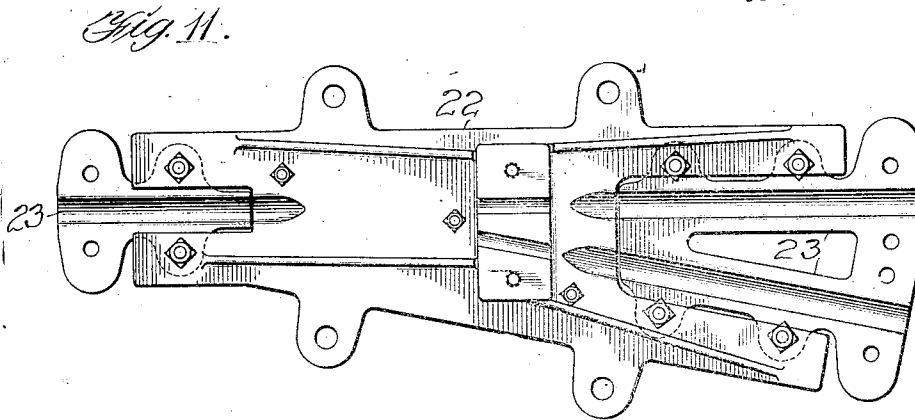
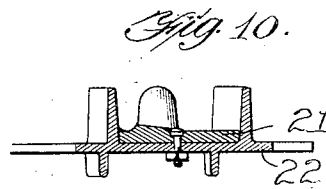
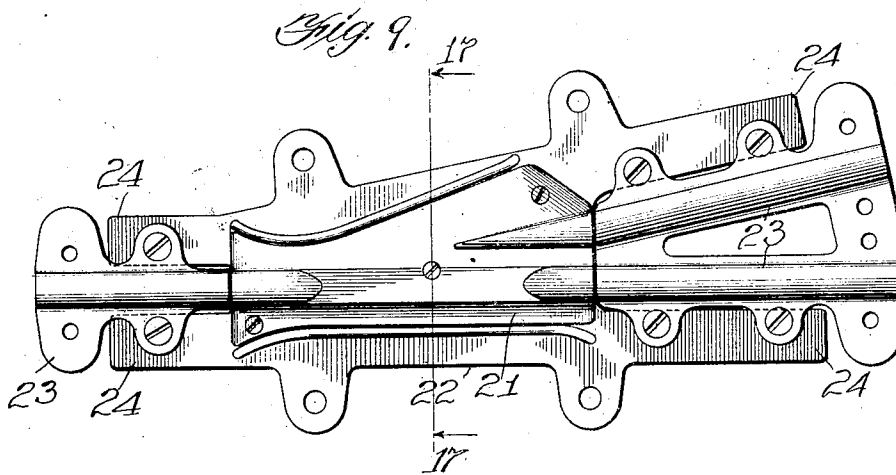
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OVERHEAD TROLLEY SWITCH AND CROSSOVER.
APPLICATION FILED AUG. 20, 1909.

1,042,615.

Patented Oct. 29, 1912.

5 SHEETS—SHEET 4.



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APPLICATION FILED AUG. 20, 1909.

1,042,615.

Patented Oct. 29, 1912.

5 SHEETS—SHEET 5.

Fig. 12.

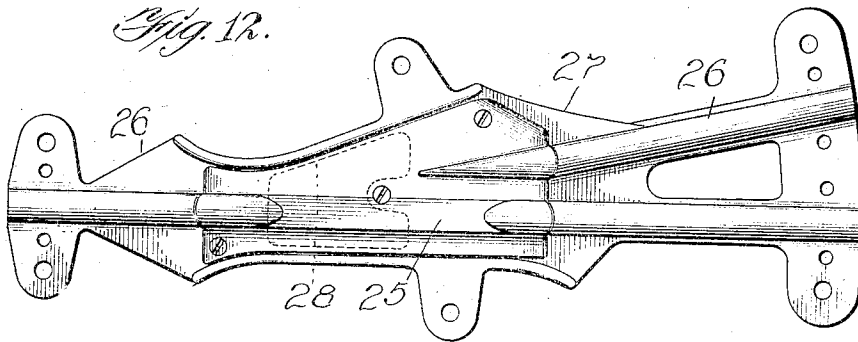


Fig. 13.

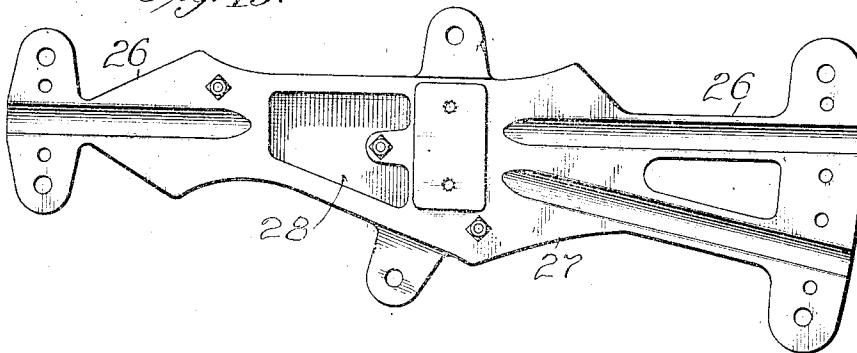


Fig. 14.

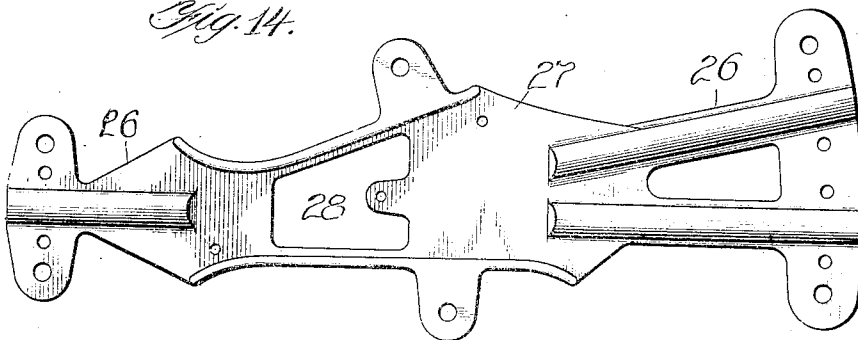
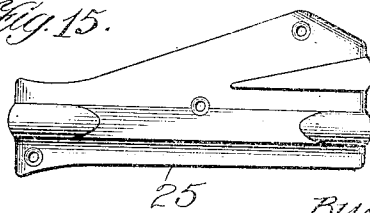


Fig. 15.



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UNITED STATES PATENT OFFICE.

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OVERHEAD TROLLEY-SWITCH AND CROSSOVER.

1,042,615.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed August 20, 1909. Serial No. 513,802.

To all whom it may concern:

Be it known that I, WILLIAM M. SIMPSON, of the city of Chicago, county of Cook, State of Illinois, United States of America, having invented certain new and useful Improvements in Overhead Trolley-Switches and Crossovers, do hereby declare that the following is a full, clear, and exact description of the same.

10 The serviceability of an overhead trolley switch or crossover depends primarily upon the wear of its points as these are the parts subjected in service to the hardest wear. Heretofore it has been frequently customary to replace the entire switch when the points have worn down. This is a very expensive practice not only in the cost of replacement, but in the wear and tear on other parts of the equipment due to the tendency to make
20 a switch last as long as possible.

The object of my invention is to reduce the expense of maintaining overhead trolley switches and crossovers in serviceable condition by making the part having points therein separate from the rest of the switch so that it can be replaced, when the points are worn, at comparatively little expense.

Another object of the invention is to enable the point member to be replaced without taking down the switch.

30 In the accompanying drawings I have illustrated my invention embodied in several forms of overhead trolley switches and crossovers.

35 Referring thereto Figure 1 is a bottom and Fig. 2 is a top plan view of one embodiment of the invention. Fig. 3 is a bottom plan view of the body of the switch shown in Figs. 1 and 2 with the point member removed. Fig. 4 is a detail bottom plan view of the point member shown in Fig. 1. Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 1. Fig. 6 is a detail view of one of the switch ears. Fig. 7 is a bottom and Fig. 8 is a top plan view of another embodiment of the invention showing the two end members detachable from the point member. Fig. 9 is a bottom, and Fig. 11 is a top plan view of another embodiment of the invention showing the end and point members mounted in a back plate. Fig. 10 is a transverse sectional view on the line 17—17 of Fig. 9. Fig. 12 is a bottom and Fig. 13 is a top plan view of another form of the invention showing the end members con-
55

nected by an integral skeleton member and the point member removable therefrom. Fig. 14 is a bottom plan view of the form shown in Figs. 12 and 13 with the point member removed. Fig. 15 is a detail bottom plan view of the point member shown in Figs. 12 and 13.

Referring to the drawings and first to Figs. 1 to 6 inclusive, 1 (Fig. 4) designates the point member which is suitably formed with points 2, 3 and 4 and is detachable from the rest of the switch. The end members 5 and 6 are connected by an integral connecting back member 7, (Fig. 3) which is preferably shaped to receive the point member. The connecting member has side flanges 8, and these flanges and the end members have lateral ears 9 to which the supporting wires (not shown) are attached. The points 2 and 3, on the point member align and abut snugly against the main line runners 10 and 11 on the end members and the switch track runner 12 is located on the end member 6 alongside runner 11. The main line wire 13 is continuous across the top of the switch (Fig. 2) and is made fast thereto by the ears 14 which are fastened to the end members. The switch wire 15 is made fast to the switch by the ear 16. In practice the points 2, 3 and 4 wear down under the pounding of the trolley wheel until they are so reduced and irregular that they will not properly guide the wheel and this results in delay and annoyance and is liable to cause considerable injury to the equipment. In such case it has been customary to replace the whole switch, which makes it necessary to "scrap" a large part in serviceable condition because a small part has been worn out. My invention entirely avoids this waste by providing for the replacement of the worn part only and this can be accomplished easily and quickly and at comparatively little expense without taking down the switch or interrupting travel. The point member is fastened to the connecting member by screws or bolts, and a worn out member can be readily replaced by a new member as often as required thereby maintaining the switch in proper operative condition and at very little expense.

In Figs. 7 and 8 inclusive, I have shown another form of the invention in which the point member 17 is made integral with the back member 18 and the latter comprises end extensions 19 to which the detachable
110

end members 20 are fastened. In this construction the combined point and connecting member can be replaced without replacing the end members, and at a considerable saving, but not so much as with other constructions.

In Figs. 9 to 11 inclusive, the construction is similar to that shown in Figs. 7 and 8, except that the point member 21 is made separate and detachable from the connecting member 22 the end members 23 being fastened to the extensions 24 on the connecting member. This construction will enable a considerable saving in maintenance over that shown in Figs. 7 and 8, because the point member only need be replaced and in this respect it is like the construction of Figs. 1-6. This construction also enables the replacement of the end members, independent of the connecting member, in which respect it is an improvement on the construction of Figs. 1-6.

In Figs. 12 to 15 inclusive, I have illustrated a construction similar to Figs. 1-6 with the separate and detachable point member 25, the end members 26 and the integral connecting member 27, but in this construction the connecting member is made in skeleton form with an opening 28 to indicate how my invention enables a reduction in the weight of the switch. The skeleton form of the connecting member may vary greatly, but I do not consider it necessary to illustrate other forms.

While my invention may be embodied in

other forms, I believe that those shown will sufficiently indicate how it can be varied in form. The point member is preferably made of some metal, such as manganese bronze or malleable metal, relatively tougher than the rest of the switch which is usually made of brass. However, I may make all the parts of brass or any other one metal, or I may make the several parts of different metals in any manner desired. And while I have shown the invention embodied only in overhead trolley switches it can also be embodied in a crossover in a similar manner.

What I claim and desire to secure by Letters Patent, is:

1. An overhead trolley switch or crossover, comprising two end members separated from each other and each provided with integral runners, and an intermediate member detachably connected with said end members and provided with integral points registering with the runners on the end members.

2. An overhead trolley switch or crossover, comprising two end members separated from each other and each provided with integral runners, a back member connecting the end members, and a point member detachably connected to said back member and provided with integral points registering with the runners on the end members.

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Witnesses:

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