

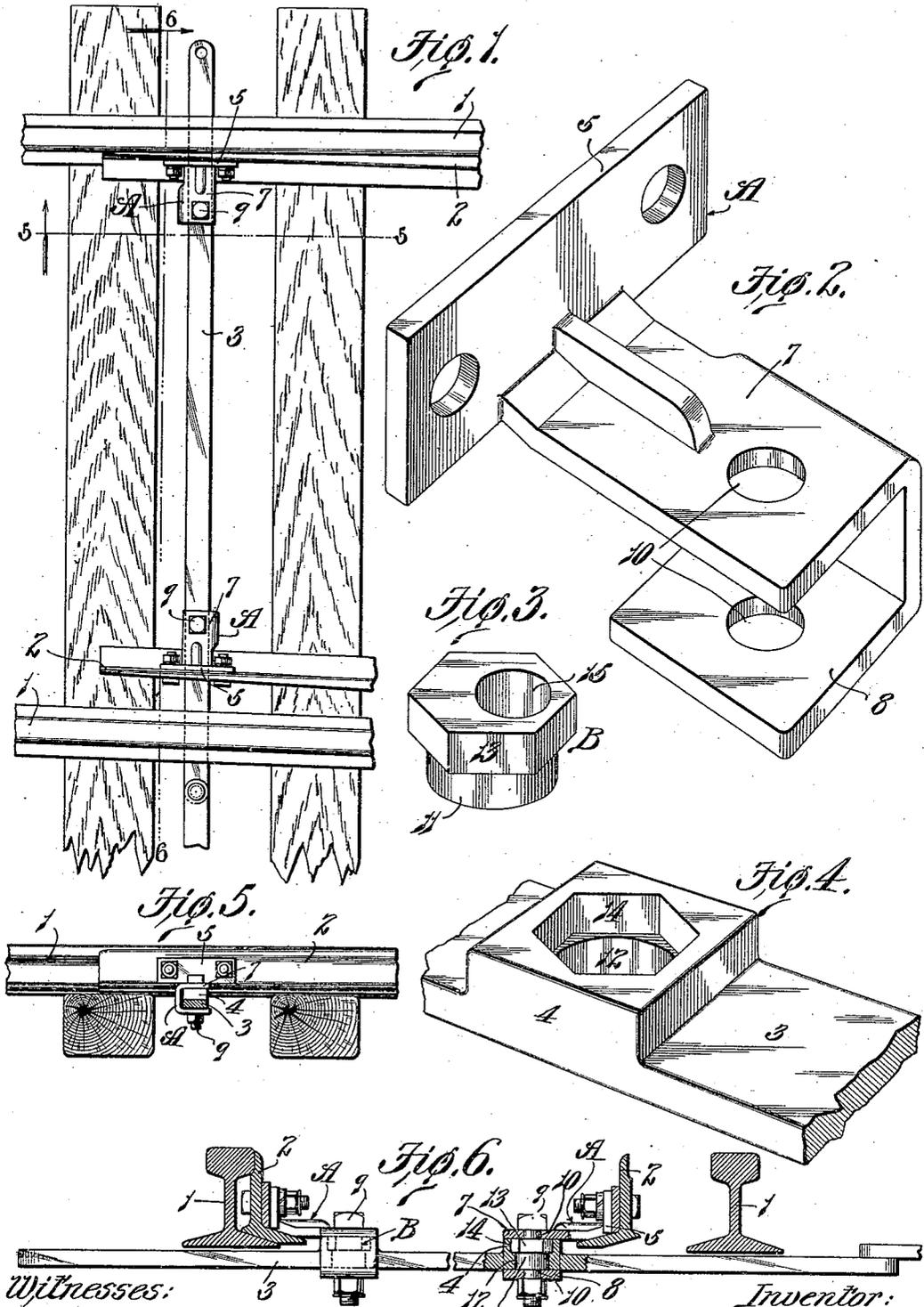
R. E. EINSTEIN.

SWITCH ROD.

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951,107.

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UNITED STATES PATENT OFFICE.

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SWITCH-ROD.

951,107.

Specification of Letters Patent.

Patented Mar. 8, 1910.

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To all whom it may concern:

Be it known that I, ROBERT E. EINSTEIN, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain
5 new and useful Improvement in Switch-Rods, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it apper-
tains to make and use the same.

10 This invention relates to split switches, and particularly to the means used in such switches for connecting the head rod to the switch-rails or switch-points.

15 One objectionable feature of the split switches now in general use is that the brackets which connect the head rod to the switch-points very often break when they are subjected to excessive strains. This is
20 due to the fact that in order to permit the base flanges of the switch-rails to lie in a higher horizontal plane than the stock-rail the brackets are bent downwardly, it being understood, of course, that the head rod
25 passes underneath the base flanges of both of the stock-rails.

Another objectionable feature of the constructions now in general use, which often causes serious expense, is that the holes
30 which are formed in the head rods to receive the bracket-fastening devices, weaken said rods to such a degree that they often break at this point.

35 One object of my invention is to provide a split switch which is so constructed that the brackets which connect the head rod to the switch-points are not liable to break under excessive strains.

40 Another object is to provide a head rod which is so constructed that it is just as strong at the points where the brackets are connected thereto as it is at any other point.

45 Another object is to provide a split switch in which the switch-points are connected to the head rod in such a manner that the thrusts of the head rod are applied to the switch-rails at a point above the base flanges of said rails. And still another object is to provide a split switch having means of
50 novel construction for adjusting the switch-points.

Other objects and desirable features of my invention will be hereinafter pointed out.

Figure 1 of the drawings is a top plan view of a split switch constructed in accord- 55
ance with my invention; Fig. 2 is a perspective view of the bracket; Fig. 3 is a perspective view of the adjustable thimble mounted in the head rod; Fig. 4 is a perspective view of a portion of the head rod; 60
Fig. 5 is a vertical sectional view taken on approximately the line 5—5 of Fig. 1; and Fig. 6 is a vertical sectional view taken on approximately the line 6—6 of Fig. 1.

65 Referring to the drawings which illustrate the preferred form of my invention, 1 designates the stock-rails of the split switch, and 2 designates the movable switch-points which are operated by a head rod 3 that extends transversely underneath the
70 stock-rails and switch-points, as shown in Fig. 6. Said head rod is provided with two thickened portions 4 located adjacent the points where the switch-rails 2 are connected thereto. Each of these thickened portions
75 or lugs 4 extends upwardly some distance above the top face of the rod so that its top face is located in approximately the same horizontal plane as the top faces of the base
80 flanges of the switch-rails. Each of the brackets A, which connect the switch-points to the head rod, is provided with a vertical web 5 that is adapted to be connected to the vertical web of the switch-
85 point with which it coöperates, a horizontal portion 7 projecting laterally from said vertical web 5 and which lies upon the top face of the lug or thickened portion 4 of the head rod, and a strap 8 that extends downwardly
90 underneath the head rod, said bracket being connected to the head rod by means of a bolt or other suitable fastening device 9 that passes through openings 10 in the horizontal
95 portion of the bracket and in the strap 8. In view of the fact that the horizontal portions 7 of the brackets are located above the base flanges of the switch-points the thrusts of the head rod will be applied to the switch-points in such a manner that there will be
100 no tendency for the switch-points to cant

or twist as would be apt to occur if the thrusts of the head rod were applied to the switch-points below the base flanges of same. Such a construction not only avoids twisting strains on the switch-points but it also reduces the liability of breakage of the brackets for that portion of the brackets which forms the direct connection between the head rod and the switch-points is straight instead of being bent downwardly, as in the constructions heretofore in general use. The thickened portions 4 of the head rod impart sufficient strength thereto to compensate for the metal which is taken away to form the holes through which the bolts 9 pass, thus reducing the liability of breakage of the head rod at the points where the switch-rails are connected thereto.

I prefer to connect the brackets A to the head rod in such a manner that they can be adjusted relatively thereto to vary the position of the switch-rails relatively to the stock-rails. The means herein shown for accomplishing this result consists of thimbles B each of which has a cylindrical-shaped portion 11 that fits snugly in a hole 12 in the head rod and a non-circular-shaped head 13 which is seated in a correspondingly shaped recess 14 in the thickened portion 4 of the head rod. An opening 15 is formed in this thimble to receive the bolt or fastening device 9 which connects the bracket to the head rod, and said opening 15 is disposed eccentrically relatively to the vertical axis of the thimble so that the position of the bracket relatively to the head rod will be changed when the position of the thimble is changed.

When it is desired to adjust one of the switch-points the thimble B is raised high enough to carry the non-circular-shaped head thereon out of the recess 14 in the head rod and the thimble is then rotated slightly to bring the opening 15 therein into a different position, the thimble being thereafter dropped back to its normal position in the head rod. While I have herein shown the thimble as provided with a hexagonal-shaped head 13 I do not wish it to be understood that my broad idea is limited to this exact construction for the particular shape of the head is immaterial so long as it serves to prevent the thimble from rotating.

A split switch of this construction is safer than those of the type heretofore in general use because the brackets which connect the switch-points and head rod together are not liable to break. The adjustment of the switch-points can also be effected quickly and by an ordinary trackman with a wrench or other common tool. Still another desirable feature of such a construction is that the thickened portions of the head rod and the thimbles mounted therein provide a

long bearing surface for the bolts 9 which connect the brackets to the head rod, thereby permitting the use of a long bolt which is strong enough to withstand the strains to which it is subjected.

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

1. In a split switch, a switch-point provided with a bracket having a laterally projecting portion arranged in a horizontal plane, a head rod having a thickened portion that bears against the under side of the laterally projecting portion of the bracket, and an extension on said bracket that projects downwardly underneath the head rod.

2. A switch-point bracket comprising a vertical web that is adapted to be connected to the vertical web of the switch-point, a laterally projecting portion arranged in a horizontal plane and lying entirely above the base flange of the switch-point, and a strap on said laterally projecting portion that extends down underneath the head rod which is adapted to be connected to said bracket.

3. In a split switch, a straight head rod passing transversely underneath the stock-rails and provided with upwardly projecting lugs whose top faces lie approximately flush with the base flanges of the switch-points, and brackets connected to said switch-points and having laterally projecting portions that lie on the top faces of the upwardly projecting lugs on the head rod.

4. In a split switch, a head rod having a thickened portion, a switch-point provided with a laterally projecting bracket, a device mounted in the thickened portion of said head rod and provided with means for preventing it from turning, said device having an eccentrically disposed opening, and a fastening device passing through said opening and said bracket to connect the switch-point and head rod together.

5. In a split switch, a head rod having a thickened portion, a switch-point provided with a laterally projecting bracket that rests on the thickened portion of the head rod, an adjustable thimble mounted in the thickened portion of the head rod and provided with means for retaining it in adjusted position, and a fastening device passing through the bracket and through an eccentrically disposed opening in said thimble to connect the switch-point and head rod together.

6. In a split switch, a switch-point, a head rod having a thickened portion whose upper surface lies in approximately the same horizontal plane as the base flange of the switch-point, a bracket connected to said switch-point and having a laterally projecting portion arranged entirely above the base flange of the switch-point and resting

upon the thickened portion of the head rod, a thimble adjustably mounted in the thickened portion of the head rod and having an eccentrically disposed opening therein, and a fastening device passing through said opening and through the laterally projecting portion of the bracket.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this second day of October 1909.

ROBERT E. EINSTEIN.

Witnesses:

GEORGE BAKEWELL,
CORA BADGER.