(No Model.)

J. E. BILLUPS.

POINT AND SWITCH.

No. 514,537. Patented Feb. 13, 1894.

Fig. 1

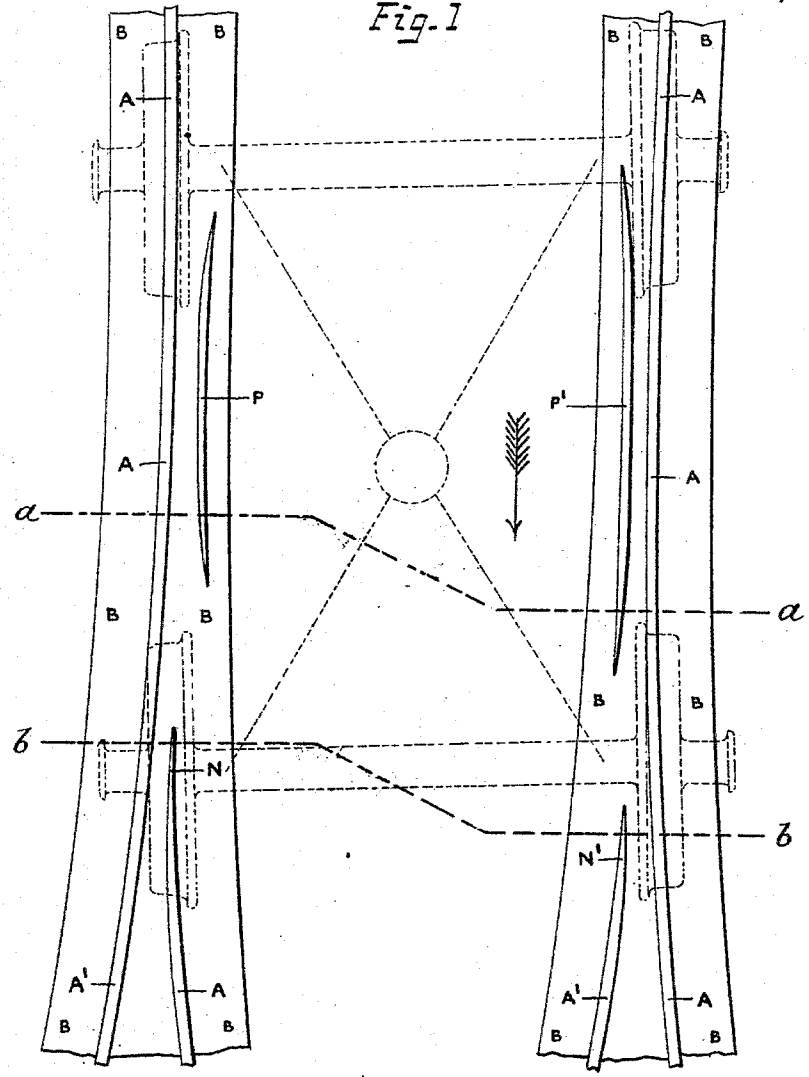


Fig. 2

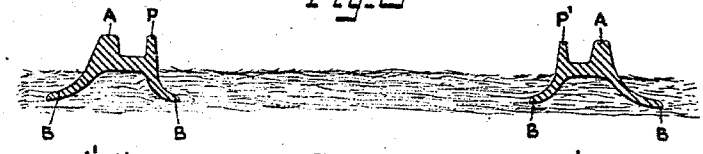
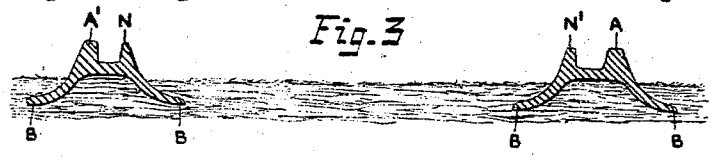


Fig. 3



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UNITED STATES PATENT OFFICE.

JONATHAN E. BILLUPS, OF CARDIFF, ENGLAND.

POINT AND SWITCH.

SPECIFICATION forming part of Letters Patent No. 514,537, dated February 13, 1894.

Application filed May 9, 1893. Serial No. 473,629. (No model.) Patented in England December 1, 1890, No. 19,575; in Belgium September 7, 1891, No. 96,300; in South African Republic December 11, 1891, No. 306; in Cape Colony December 29, 1891 No. 728; in France March 10, 1892, No. 220,038, and in Argentine Republic June 10, 1892, No. 1,162.

To all whom it may concern:

Be it known that I, JONATHAN EDWIN BILLUPS, a subject of the Queen of Great Britain and Ireland, and a resident of Cardiff, in the county of Glamorgan, Wales, England, have invented certain new and useful Improvements in Points and Switches for Railways and Tramways, (for which I have obtained patents in the following countries, viz: Great Britain, No. 19,575, bearing date December 1, 1890; France, No. 220,038, bearing date March 10, 1892; Belgium, No. 96,300, bearing date September 7, 1891; Cape Colony, No. 728, bearing date December 29, 1891; South African Republic, (Transvaal,) No. 306, bearing date December 11, 1891, and Argentine Republic, No. 1,162, bearing date June 10, 1892,) of which the following is a specification.

The object of my invention is the construction of an improved form of fixed points to be employed with the "Barlow" and similar sections of rail. Such sections of rail require no sleepers, forming in themselves a continuous sleeper and rail combined, and for this reason they are particularly applicable for use in hot climates and for the construction of railways through wild and thinly populated country. Hitherto difficulty has been found in the construction of points suitable for these sections of rail, which has formed an objection to their use, but by the employment of my invention this difficulty is overcome.

Referring to the drawings, which form part of this specification; Figure 1 is a plan showing the construction and arrangement of my improved fixed points. Fig. 2 is a cross-section through *a a* in Fig. 1, and Fig. 3 is a cross-section through *b b* in Fig. 1.

The apparatus consists of two steel castings shown clearly in Fig. 1. These castings are formed with the rail heads, points and guard rails in their proper relative positions and have curved side flanges, as shown in the cross-sections, similarly to the general section of the rails, so that they are self supporting on the ballast, and require no sleepers. The castings at their ends are exactly similar in cross-section to the rails, so that a perfect joint can be formed therewith.

A A are the rails of the main line, and A′ A′ the rails of a branch or loop line.

N N′ are the fixed points and P P′ the check or guard rails.

The point N of the main line projects somewhat in advance of the point N′ of the branch line, and the guard rail P′ extends sufficiently in advance of the guard rail P toward the points, to hold the wheel flange against its rail and insure the opposite wheel taking the point N, which in its turn insures the former wheel flange passing safely between its rail A and the point N′. By this means a train coming along the main line in the direction of the arrow will be compelled to continue along the main line, it will run over the points and cannot get on to the branch line A′ A′, but a train coming in the opposite direction along either the main or branch line can pass the points with equal facility. By this arrangement the services of a switchman are dispensed with and the points can never get out of order.

The dotted lines in Fig. 1 represent the bogie truck of an engine or car traveling in the direction of the arrow, the position shown being that in which the leading wheels have just taken the points and are proceeding along the main line, in the manner above described.

In place of castings the two parts of the apparatus may, if preferred, be made of wrought iron or steel, the necessary shape being obtained partly by rolling and partly by machining.

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

1. In a railway comprising the main and branch lines, the fixed points N, N′ having the end of the main line point N extending in advance of the branch line point N′, and the guard rail P′ extending in advance of the end of the opposite guard rail P toward the points N N′ said guard rails and points being so aligned that wheels approaching the points from the main line will meet the main line point N first and be properly guided thereto by the advance point of the guard P′, while wheels coming in the opposite direction along

either the main or branch line can pass the points with equal facility, substantially as described.

2. In a railway or tramway, fixed points consisting of two castings or forgings, having curved side flanges B B rendering them self supporting on the ballast, the one casting or forging formed with a main line rail head A diverging into a branch line rail head A′, a fixed main line point N and a guard rail P, and the other casting or forging formed with a main line rail head A a fixed branch line point N′ and a guard rail P′, the point N being in advance of the point N′ and the guard rail P′ in advance of the guard rail P, so that wheels meeting the points can only proceed along the main line A A, while wheels coming in the opposite direction, along either the main line A A or branch line A′ A′, can pass the points with equal facility substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

J. E. BILLUPS.

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