

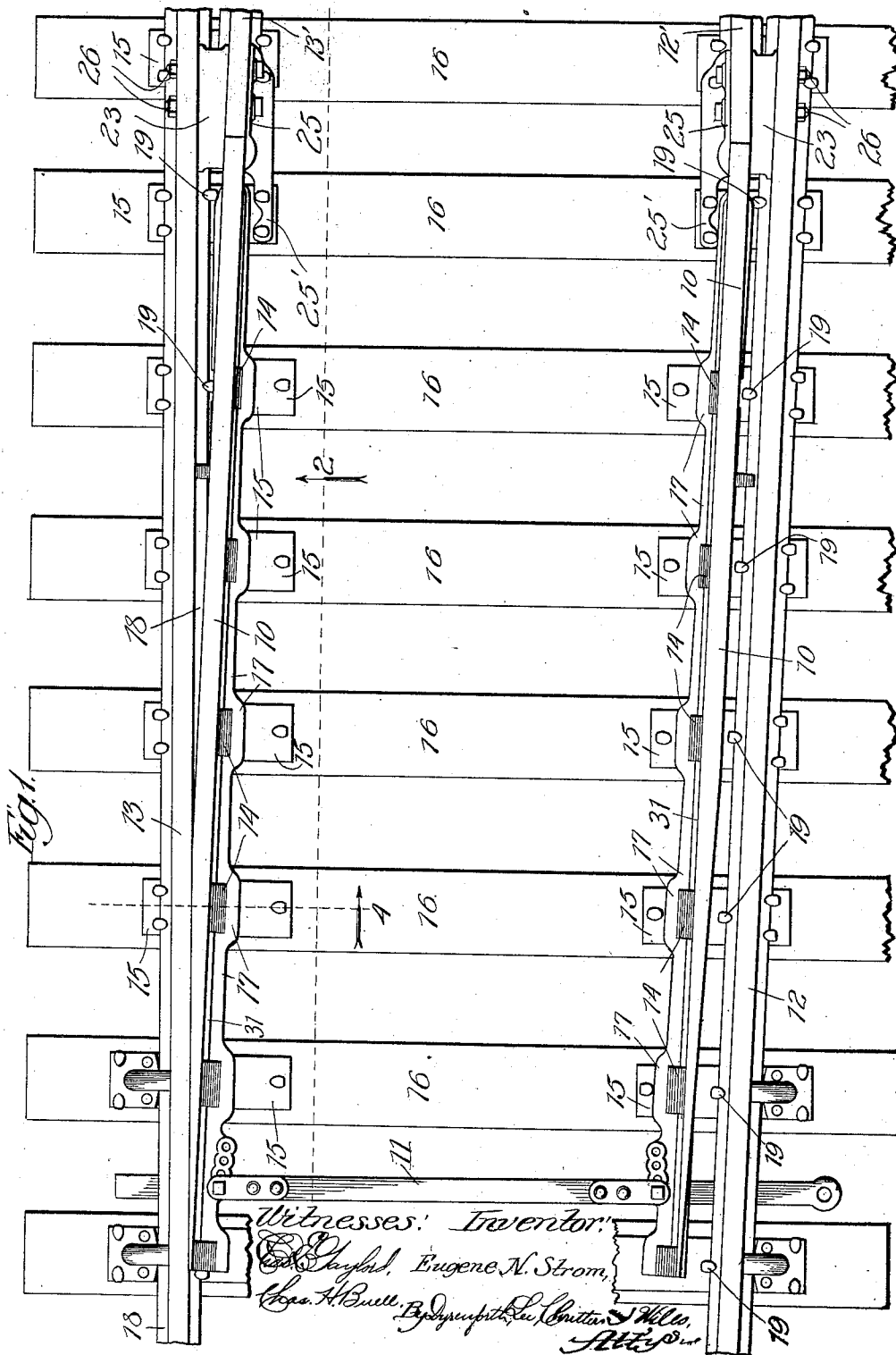
RAILWAY SWITCH.

APPLICATION FILED DEC. 6, 1912.

1,056,470.

Patented Mar. 18, 1913.

4 SHEETS--SHEET 1.



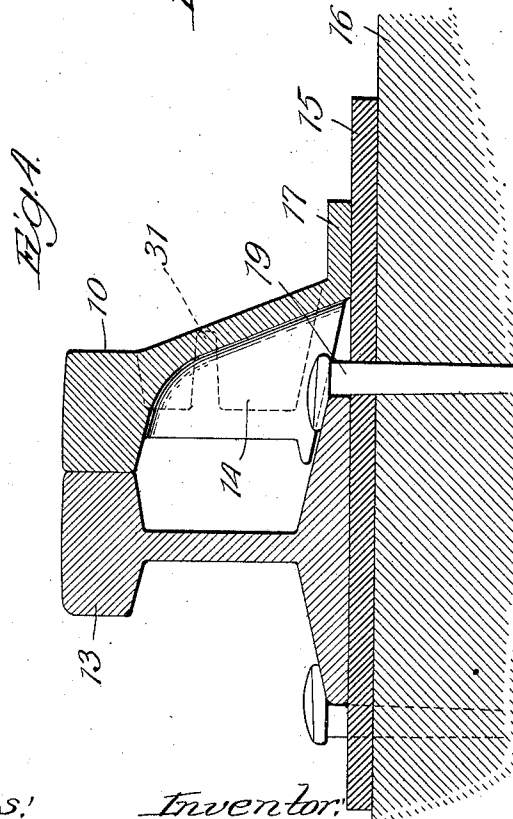
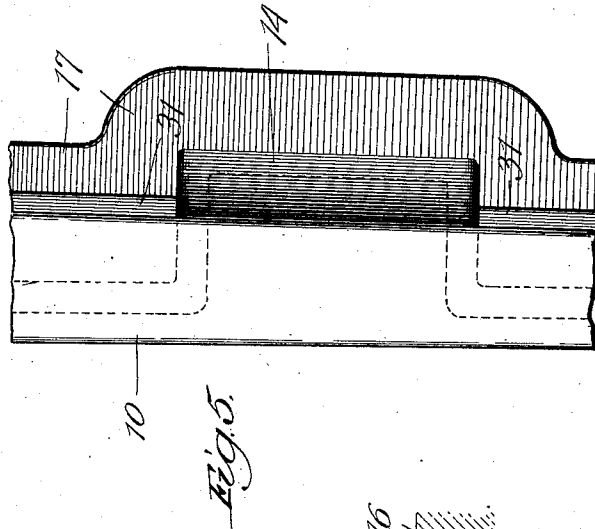
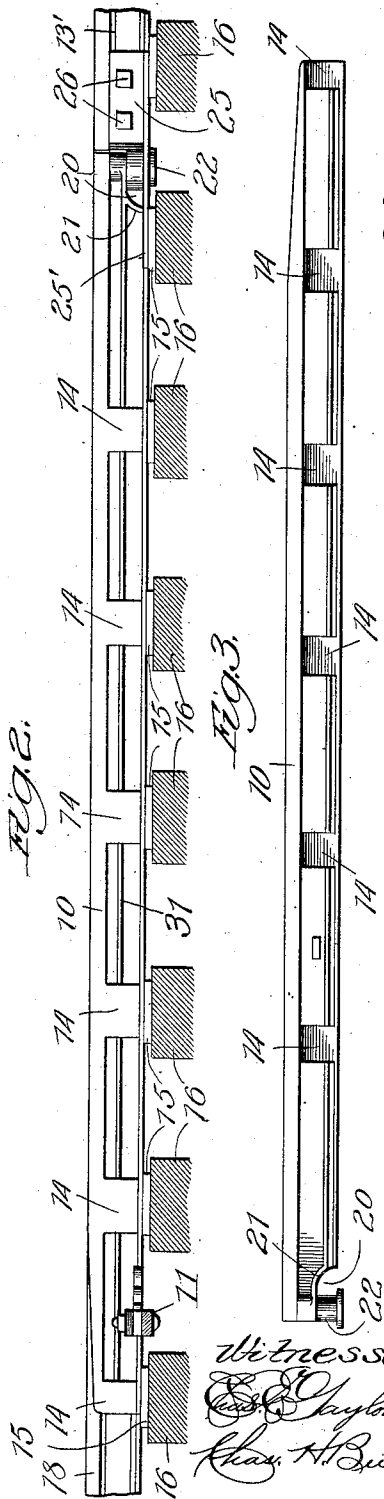
E. N. STROM.
RAILWAY SWITCH.

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4 SHEETS-SHEET 2.

1,056,470.



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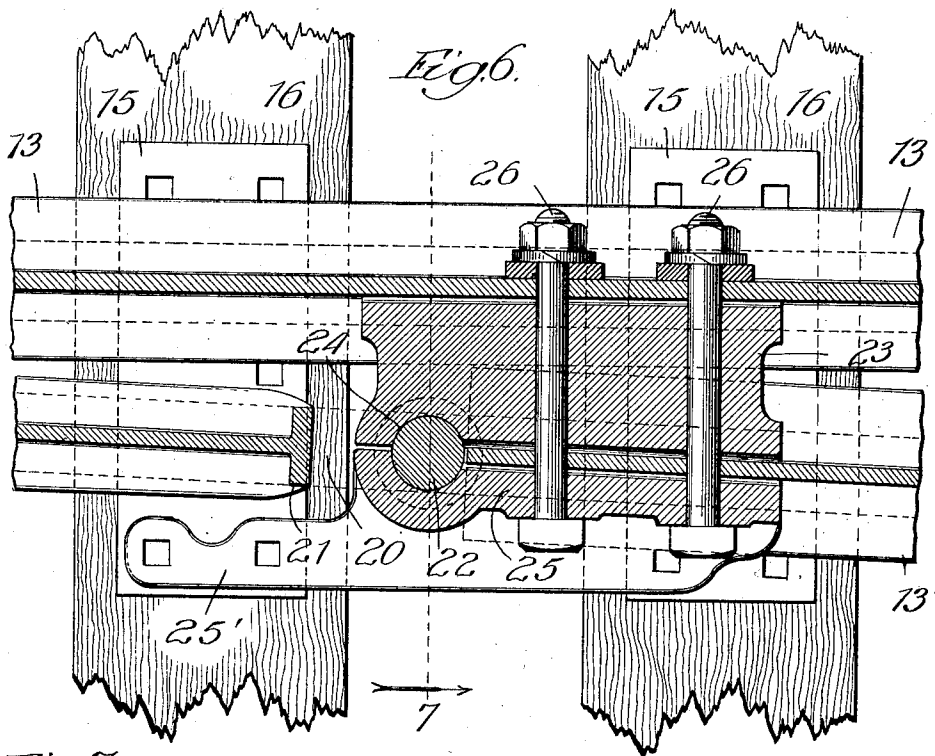
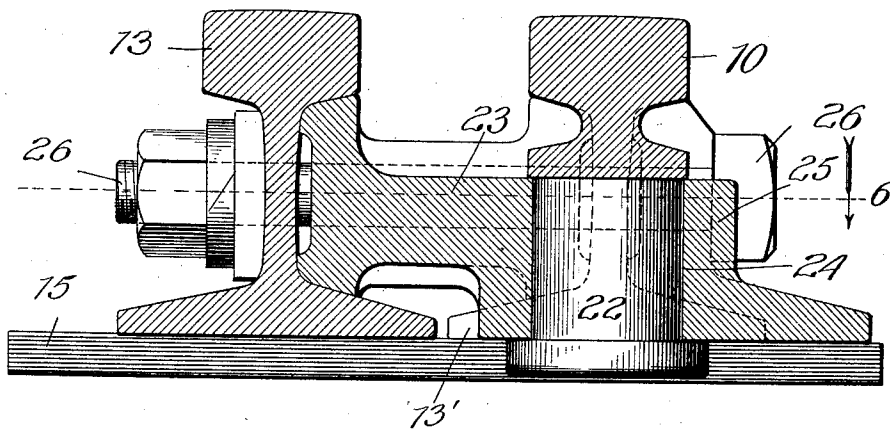
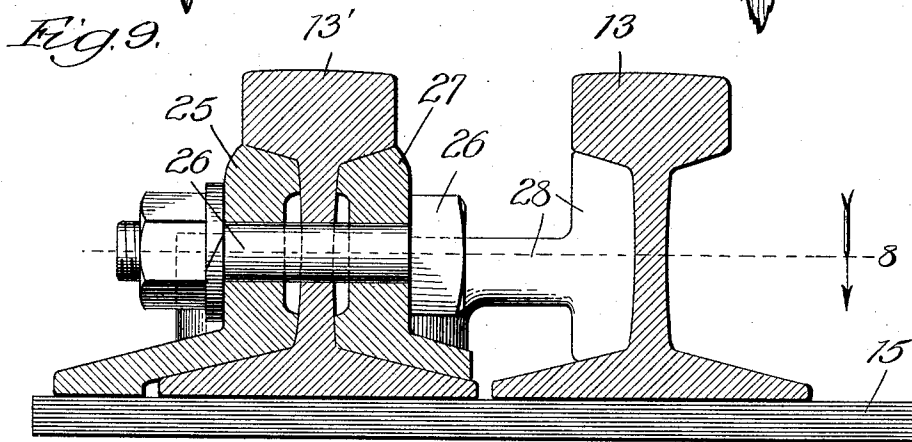
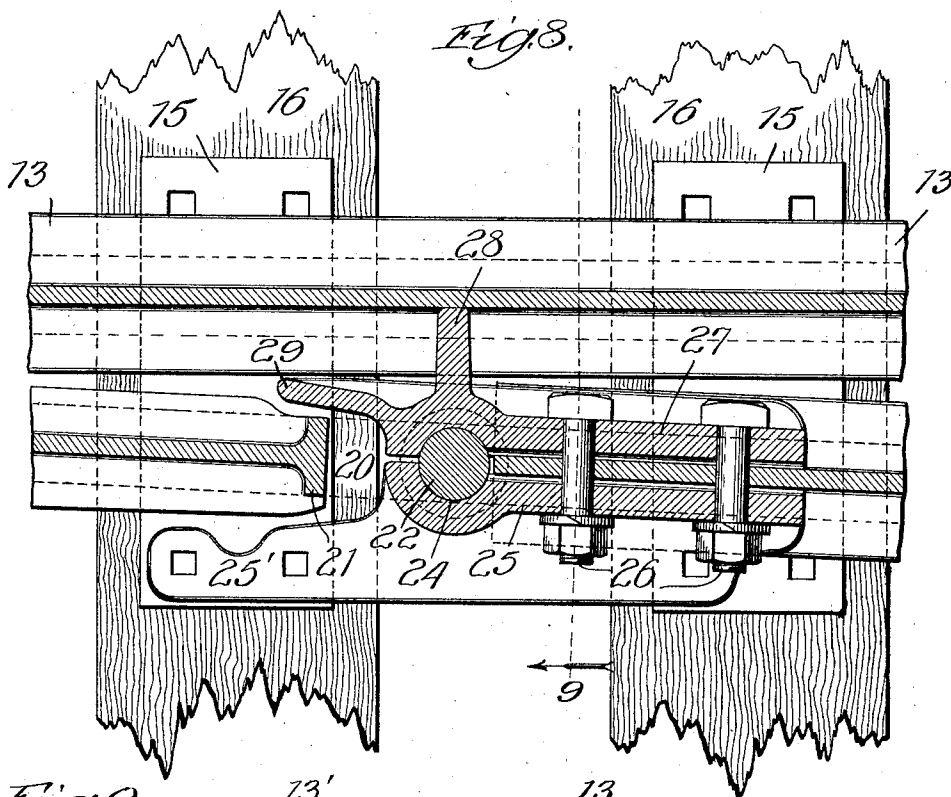


Fig. 7.



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UNITED STATES PATENT OFFICE.

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RAILWAY-SWITCH.

1,056,470.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed December 6, 1912. Serial No. 735,287.

To all whom it may concern:

Be it known that I, EUGENE N. STROM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Railway-Switches, of which the following is a specification.

My invention relates, primarily, to an improvement in the construction of the point-rail of a railway-switch.

In the accompanying drawings, Figure 1 shows, by a plan view, a railway split-switch embodying my improvements; Fig. 2 is a section on line 2, Fig. 1, showing one of the point-rails in elevation; Fig. 3 shows the point-rail in elevation, presenting its outer side; Fig. 4 is an enlarged section on line 4, Fig. 1; Fig. 5 is a broken top plan view of the point-rail in Fig. 4, partly in dotted representation; Fig. 6 is a broken view in plan section, on line 6, Fig. 7, showing the construction of the pivotal end of the point-rail; Fig. 7 is a section on line 7, Fig. 6; Fig. 8 is a section on line 8, Fig. 9, being a view like that presented in Fig. 6, but showing a modification, and Fig. 9 is a section on line 9, Fig. 8.

In its general features, the switch is like other railway-switches of the same class, comprising a pair of pivotal point-rails 10, 10, adjustably connected near their pointed ends by a tie-bar 11 to adapt the switch to be thrown, as by a switch-stand (not shown), in opposite directions against fixed rails 12 and 13.

The point-rail is formed on its inner side with downwardly-flaring chambers 14 at intervals corresponding with those at which the tie-plates 15 and ties 16 thereon occur. The chambers are formed by bulging toward the inner side of the point-rail (meaning that nearest the center of the track) its web or neck at intervals, and correspondingly expanding its base-flange 17 to bear about the bases of the chambers upon the ties, the chambers thus reinforcing the point-rail and serving the purpose of braces therefor. The primary purpose of these chambers, however, is to afford recesses adjacent to each rail 12 and 13 to enable the latter to be fastened along their inner flanges 18 by spikes 19, driven through suitable holes in the tie-plates, without presenting the spike-heads as obstructions to the point-rails in the movements against the fixed companion-

rails. Thus is accomplished the very desirable object of enabling these fixed rails to be spiked down at their inner base-flanges along the point-rails, in addition to spiking them along their outer base-flanges.

The larger pivotal end of each point-rail is recessed curvedly in the upward direction, as shown at 20 (Figs. 3, 6 and 8), the edge of the recess being provided with a reinforcing head or flange 21 extending to a pivot-pin 22 depending from the extremity of the rail and flanged about its lower end.

To pivotally fasten a point-rail in its abutting relation to a rail 12' or 13', according to the construction illustrated in Figs. 6 and 7, a spacer, in the form of a filler-block 23, is interposed between the opposing rail-ends and is formed in the inner face of its forward end, beyond the rail-end, with one-half of a circular socket 24, the other half of which is formed in a brace 25 having a tongue-like extension 25' of its flange provided with spike-holes, as shown, through which and a similar hole in the flange near its opposite end, to spike the brace through tie-plates to two adjacent ties 16. The block 23 and brace 25 for each point-rail are secured together to form the socket 24, by bolts 26 passed transversely through them and through the webs of the respective outer fixed rails 13, 12, and inner fixed rails 13', 12'. The pivot-pin works in the socket, being confined therein against upward displacement by its flange. In this way a very strong and durable construction of the pivot-feature of the point-rail is afforded, which is readily separable to enable removal and replacement of the point-rail.

The construction illustrated in Figs. 8 and 9 for pivoting the point-rail, differs from that described in substituting for the filler-block 23 a bracket form of spacer 27 to cooperate with the brace 25 in forming the pivot-socket, by extending the spacer along the inner face of the point-rail web, through which alone the spacer and brace are bolted together; and the bracket is formed with a lateral extension 28 to fit, as a rail-brace, against the inner side of the web of the adjacent fixed rail, between its head and flange, and is provided with a forward tongue-extension 29 of its flange to project over the adjacent tie-plate 15 and thus augment the area of bearing-surface of the brace. For further reinforcing the point-rail, it is shown

to have formed upon it ribs 31 projecting from the inner face of the web and extending between the walls of the chambers 14.

While it is the preferable construction to provide the point-rail with chambers 14 at intervals, as shown and described, it is within my invention to expand the entire web and inner flange of the point-rail to form instead a continuous chamber or recess to serve the purpose herein explained of the series of chambers.

What I claim as new and desire to secure by Letters Patent is—

1. A railway-switch point-rail having its web chambered to recess it from its outer side inwardly, for the purpose set forth.

2. A railway-switch point-rail provided at intervals in its web with chambers bulging at the inner side of the rail, for the purpose set forth.

3. A railway-switch point-rail having its web formed with downwardly-flaring chambers extending at intervals along the inner side of the rail, for the purpose set forth.

4. A railway-switch point-rail having its web formed with downwardly-flaring chambers extending at intervals along the inner side of the rail, and its inner flange expanded about the bases of said chambers, for the purpose set forth.

5. In a railway-switch, the combination of a point-rail having the rail-web and inner base-flange expanded to recess the rail along its inner side, for the purpose set forth.

6. In a railway-switch, the combination of a point-rail provided at intervals in its web with inwardly-bulging chambers, and a fixed rail spiked along its inner base-flange to the ties at intervals corresponding with those of said point-rail chambers.

7. In a railway-switch, the combination of a point-rail having its web formed with downwardly-flaring chambers extending at intervals along the inner side of said rail and its inner flange expanded about the bases of said chambers, and a fixed rail spiked along its inner base-flange to the ties at intervals corresponding with those of said point-rail chambers.

8. In a railway-switch, the combination of inner and outer fixed rails and a point-rail pivoted at the end of the inner fixed rail, a filling block between said inner and outer rails and a bracket at the inner side

of said inner rail, said block and bracket being bolted together through the adjacent fixed rail webs and extending and forming between them, beyond the end of said fixed rail, a pivot socket, and said point rail having a pivot stud working in said socket.

9. In a railway-switch, the combination of a fixed rail and a point-rail pivoted at the end thereof, a bracket and a spacer at opposite sides of and bolted together through the fixed-rail web and extending and forming between them, beyond said end, a pivot-socket, said point-rail having a flanged base-recess in one end and a depending end-stud confined to work pivotally in said socket.

10. In a railway-switch, the combination of a fixed rail and a point-rail pivoted at the end thereof, a bracket and a spacer at opposite sides of and bolted together through the fixed-rail web and extending and forming between them, beyond said end, a pivot-socket, said bracket having a tongue-extension on one end through which and its opposite end it is fastened to adjacent ties, and said point-rail having a pivot-stud working in said socket.

11. In a railway-switch, the combination of inner and outer fixed rails, point-rails pivoted at the inner rail-ends, filling-blocks between said inner and outer rails and brackets at the inner sides of said inner rails, said blocks and brackets being bolted together through the adjacent fixed-rail webs and extending and forming between them, beyond the end of said inner fixed rail, a pivot-socket, and said point-rails having pivot-studs working in said sockets.

12. In a railway-switch, the combination of inner and outer fixed rails, point-rails pivoted at the inner-rail ends, filling-blocks between said inner and outer rails and brackets at the inner sides of said inner rails, said blocks and brackets being bolted together through the opposing fixed-rail webs and extending and forming between them, beyond the end of each inner fixed rail, a pivot-socket, and said point-rails having flanged base-recesses in one end and depending end-studs confined to work pivotally in said sockets.

EUGENE N. STROM.

In presence of—

J. G. ANDERSON,
O. C. AVISUS.