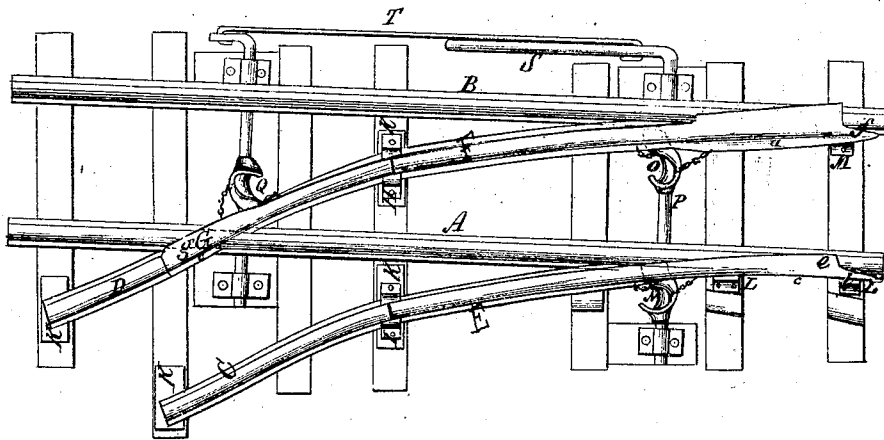
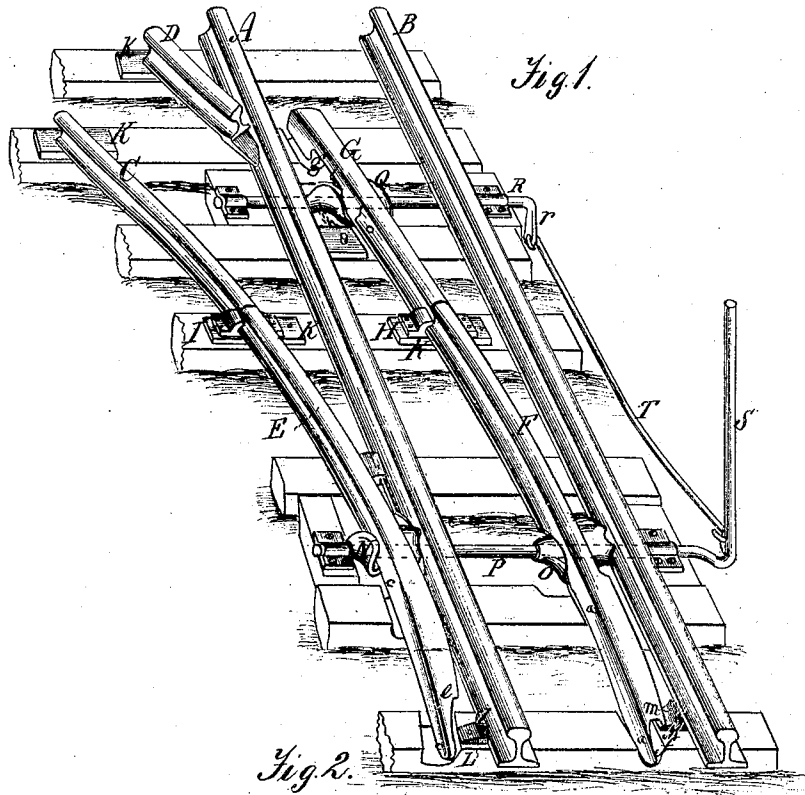


J. P. HERRON.

Improvement in Railway-Switches.

No. 128,488.

Patented July 2, 1872.



Witnesses.

C. L. Turner
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JAMES P. HERRON, OF ATLANTA, GEORGIA, ASSIGNOR TO HIMSELF, JAMES S. NEGLEY, OF PITTSBURG, PENNSYLVANIA, AND CHARLES HERRON, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN RAILWAY SWITCHES.

Specification forming part of Letters Patent No. 128,488, dated July 2, 1872; antedated June 15, 1872.

Specification describing certain Improvements in Railroad Switches, invented by JAMES P. HERRON, of Atlanta, in the county of Fulton and State of Georgia.

The first part of my invention consists in a novel and peculiar disposition of the switch-rails with reference to the rails of the main track and siding, which admits of putting down a switch without disturbing in any way the rails of the main track, and by which the use of frogs is dispensed with. The second part of my invention consists in the combination of mechanism for operating the switch-rails in connection with the arrangements, in an elevated position, of the terminal ends of the siding, so that, in making connection with the siding, the free ends of the switch-rails are thrown and lap or saddle over the rails of the main track, and by a gradual inclination become sufficiently elevated above the main track to permit the flanges of the car-wheels to clear the rails in passing over onto the siding.

Figure 1 is a perspective view of my improved switch applied to a main track and siding, and standing open. Fig. 2 is a plan view thereof, showing the switch as closed.

The same letters of reference are used in both figures in the designation of identical parts.

A and B refer to rails of the main track, and C and D to those of the siding, all being firmly spiked to the cross-ties. In the construction of the switch three rails, E F G, are employed. The rail E constitutes a continuation of the rail C of the siding, and is hinged to the chair I, supporting the extreme end of the latter in such a manner that it may have both a horizontal and a vertical oscillation. The outer side *c* of the free end of the rail E is vertical, or nearly so, and rests on the base of the rail A, and extends along the side of said rail, fitting closely to its waist. From its extreme point under the top of the rail A the rail E extends gradually backward and upward above the top of the rail A; it then extends across the top of said rail, saddling on it, and continues to ascend by a gradual inclination backward until the elevation is sufficient to carry the car-wheels over rail A. The chairs of the terminal rails C and D of the siding, as well as

the chairs H and I, to which the switch-rails are hinged, are placed upon elevations or elevated ties, the elevation being sufficient to raise the rails connected with them above those of the main track, so as to prevent the car-wheel flanges from coming in contact with the rails of the latter in crossing. The rail F of the switch, situated between the rails of the main track, is hinged to the chair H in the same manner as the rail E is to the chair I. The free end of the rail F rests on the base of the rail B, its inner side being so formed as to extend under the top of and fit closely to the waist of said rail. The point of this rail F terminates acutely under the top of and against the waist of the rail B, which serves to direct the flanges of the car-wheels to the inside of this rail F, leading to the side track. From its point the rail F extends backward and upward to or above the top of rail B; it then extends across the top of said rail, and is strengthened with a strong body of metal, which extends beyond and overhangs the outside of rail B, presenting a broad bearing-surface to the wheels and strengthening and protecting the part resting on the top of the rail. *a* is an extended flange on the inside of the rail F to receive the flanges of the wheels and assist in protecting the part of this rail which rests on top of rail B. L and M are chairs with upturned flanges or elevations *l* and *m*, which, in connection with the rails A and B, form seats for the reception and retention of the rails E and F, holding them firmly to the rails A and B, and preventing lateral displacement. Similar chairs may be used at other points, as necessary. The third rail G of the switch, hinged to the chair H at one end, in connecting the side with the main track must have its other end thrown entirely across the rail A of the main track in order to connect it with the rail D of the siding. To this end it becomes necessary to cut a diagonal gain, *g*, in it so as to saddle over and lock firmly across and on the top of the rail A with sufficient elevation to allow the free passage of car-wheels over said rail. By this construction and arrangement of the rail G the use of frogs is entirely dispensed with. If desired, the rail G may be arranged to be thrown from the

siding outside the main track across rail A. When the switch is not in use the rails E, F, and G are thrown from the rails of the main track, leaving it free, continuous, and unbroken by shifting rails or frogs. The switch-rails are operated respectively by the helical cams or plates N and O on the rock-shaft P and a similar cam, Q, on the rock-shaft R, all arranged under the rails, as shown. The shaft P is provided with a hand-lever, S, which is connected to a crank, r, on the shaft R by the rod T. The switch-rails are attached by chains or their equivalent to the helical cams, and the construction of the latter is such that in operating the switch they will, simultaneously with moving the rails laterally, elevate their free ends, and lift them so that the heads of the rails E and F may be moved over the rails of the main track and the rail G across the rail A, the operation being completed by the cams dropping the rails to their proper places. This switch may be operated by hand; or it

may be constructed to operate automatically by mechanism fully shown and described in Letters Patent No. 106,266, granted to me on the 9th day of August, 1870, and it may be made to fall from the main track by its own gravity.

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

1. The rails E, F, and G, having a broad bearing-surface, *e*, a flange, *a*, and the side *c*, constructed substantially as described.

2. The rails E, F, and G, in combination with the rails A and B and chairs L and M, when constructed and operating substantially as and for the purpose set forth.

The above specification signed by me this 22d day of August, 1871.

JAMES P. HERRON.

Witnesses:

LAURA J. HERRON,
CHARLES HERRON.