(No Model.)

W. W. PENNELL.

RAILWAY SWITCH.

No. 294,904. Patented Mar. 11, 1884.

Fig. 1.

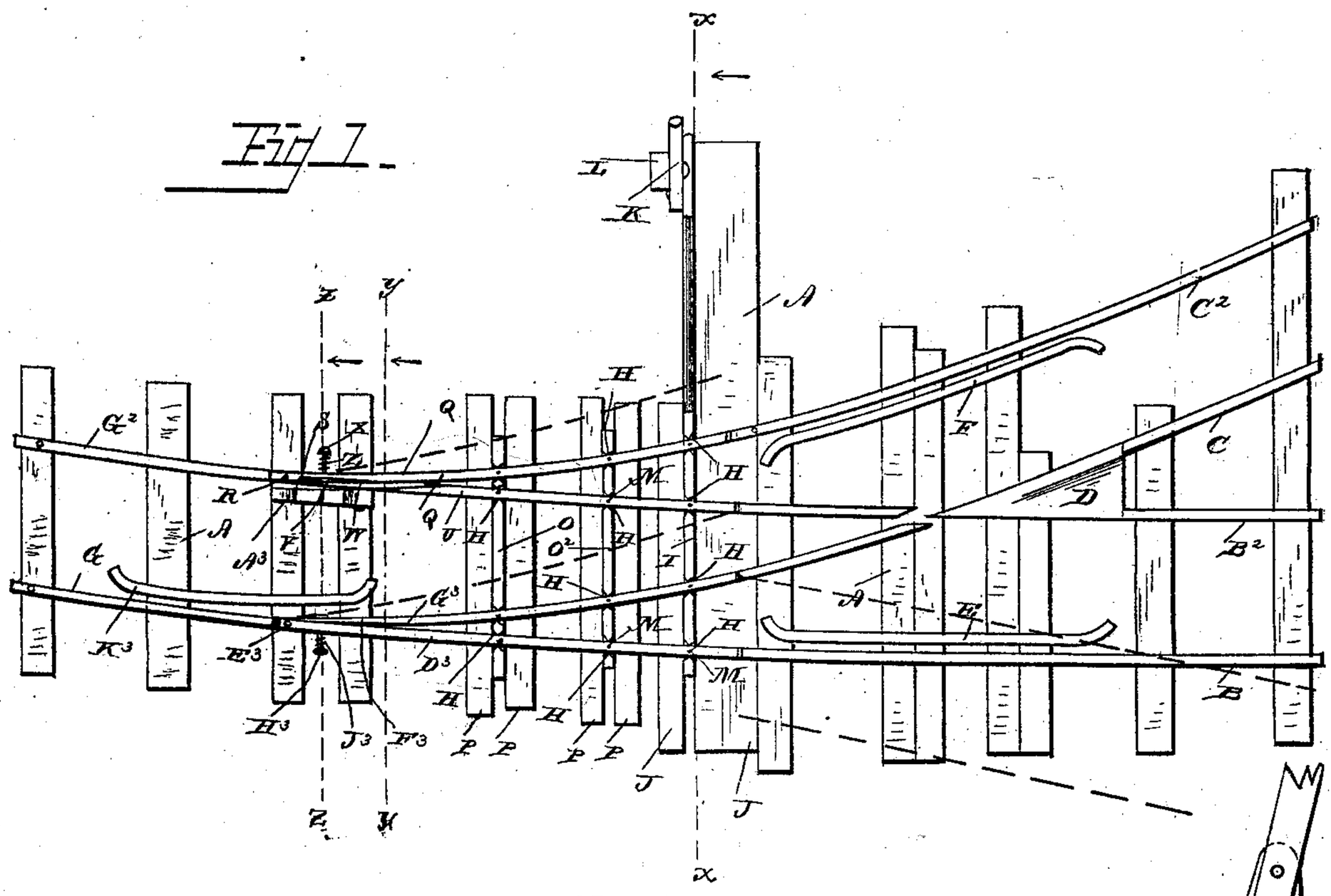


Fig. 2.

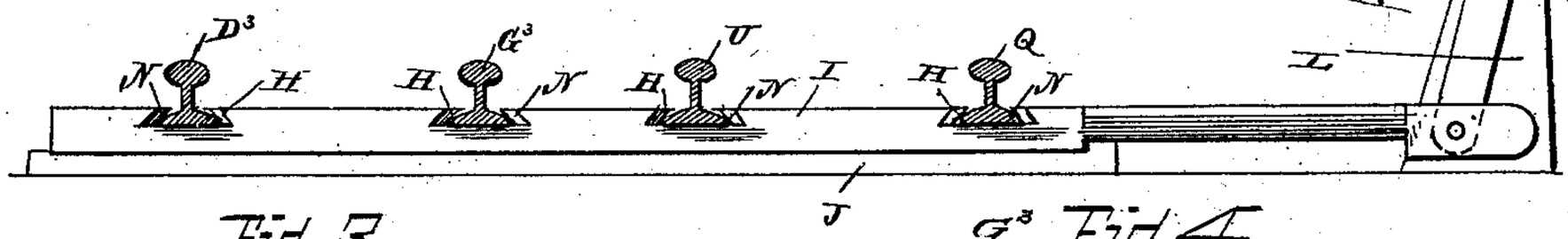


Fig. 3.

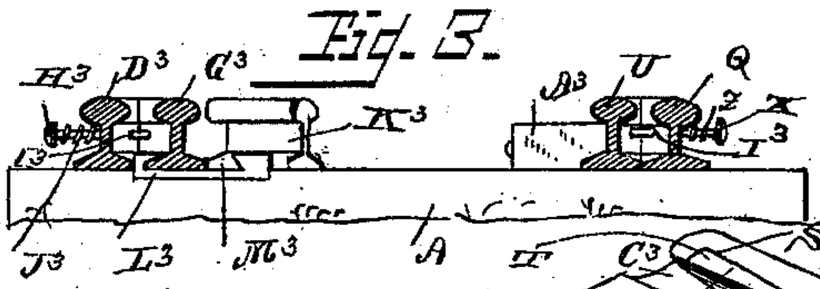


Fig. 4.

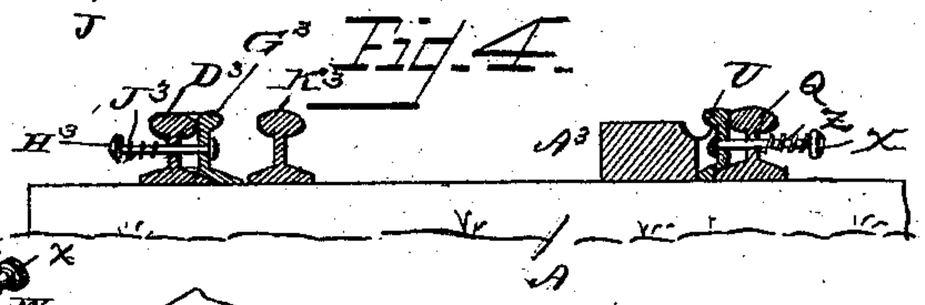
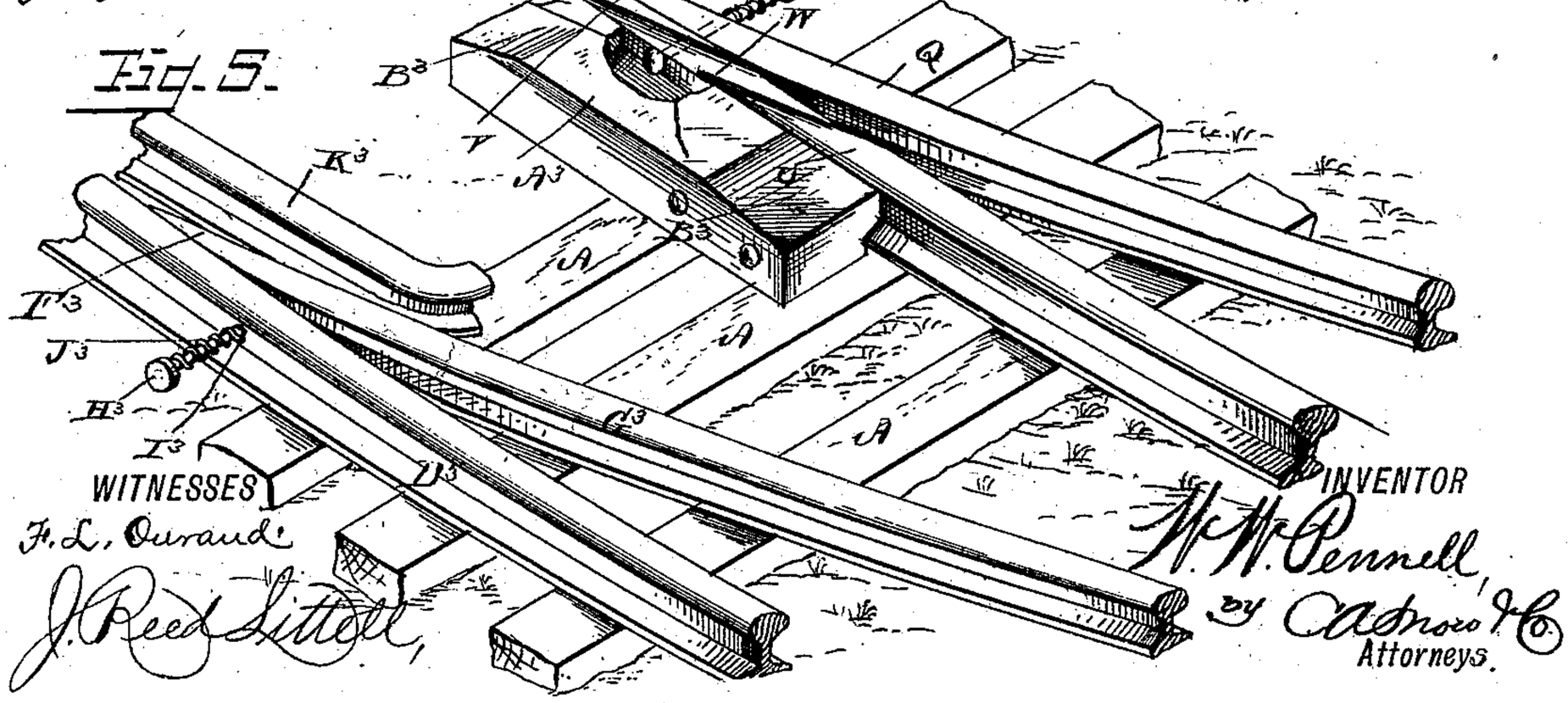


Fig. 5.



WITNESSES

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WILLIAM W. PENNELL, OF NASHVILLE, OHIO.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 294,904, dated March 11, 1884.

Application filed July 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. PENNELL, a citizen of the United States, residing at Nashville, in the county of Holmes and State of Ohio, have invented a new and useful Railway-Switch, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to railway-switches; and its object is to provide a safety-switch possessing superior advantages in point of simplicity, inexpensiveness, and general efficiency.

In the drawings, Figure 1 is a plan view of a switch embodying my improvements. Fig. 2 is a transverse sectional view on the line *x x*, Fig. 1. Fig. 3 is a transverse sectional view on the line *y y*, Fig. 1. Fig. 4 is a transverse sectional view on the line *z z*, Fig. 1. Fig. 5 is a perspective detail view.

Referring to the drawings, A designates the sleepers on which the rails are laid in the usual manner.

B B^2 designate the rails forming the main track, and C C^2 are the rails forming the side track. These rails all terminate at the switch, as shown, and the rail C of the side track crosses the rail B^2 of the main track, a suitable frog, D, being arranged at the junction, and guard-rails E and F being arranged in conjunction with the rails B and C^2, this arrangement being mainly as is usual in this class of devices.

G G^2 designate the rails that form the continuation of the main track at the other side of the switch.

The switch in the present instance comprises four rails, Q U G^3 D^3, which have their ends adjoining the ends of the rails B B^2 and C C^2, seated in dovetailed recesses H in a transverse sliding block or chair, I, that is adapted to slide between two guide sleepers or blocks, J J, by operation of a lever, K, that is pivoted to the ends of the said chair and fulcrumed on a standard, L, or in any other suitable manner. By operating this lever the block or chair I will be carried to cause the rails of the switch to register with the rails of the main track and side tracks. The ends of the switch-rails are pivoted, as at M, in the recesses H, and the latter are beveled from the center, as shown at N, to permit slight lateral play of the ends of the rails on their pivots. Corresponding chairs or blocks are arranged to receive the rails of the switches at intervals along the length of said rails, these chairs being designated by the letters O.O^2, being provided with the recesses and pivot-pins, and being carried by the rails between guide sleepers or blocks P P, all as shown.

The four rails of the switch are arranged as follows:

Q is a straight rail that is pivoted at its end adjoining the rail G^2 to a sleeper, A, by means of a pivot-pin, R, and is formed with a beveled notch, S, in its inner side and at this end, said notch forming a shoulder, T.

U is the next rail, which is tapered at its end, as shown at V, to fit the beveled recess or notch S, and have its end come against the shoulder T, and the top edge of the rail at this tapered end V is cut down, as shown at W, to admit of the flange of a wheel passing from rail Q, by said rail U, to rail G^2. The rail U is preferably connected with rail Q by a bolt, X, working through perforations in the rails and against the tension of a coiled spring, Z. This provides a safe joint, which would "give" should the flange of the wheel become wedged between the said rails.

A^3 is a heavy plate, that is bolted to or is integral with the tapered end of rail U and projects from the inner side thereof. This plate is tapered at both ends, B^3 B^3, and is provided with a groove, C^3, to receive the flange of the wheels in passing from rails Q or U to rail G^2.

D^3 is a rail pivoted to the sleeper A by a pivot-pin, E^3, at the end adjoining the rail G. To this end of rail D^3 is connected the beveled end F^3 of a rail, G^3, by means of a bolt, H^3, passing through perforations I^3 I^3 in the rails and working against a coiled spring, J^3, so that the flanges of the wheels can pass between rails D^3 and G^3 when passing from rail D^3 to rail G.

K^3 is a guard-rail, that is arranged inside the joint between the rails G and D^3, and there is a block, L^3, arranged under the rail G^3, at its joint with the rail D^3, the block being provided with a wide dovetailed recess, M^3, to retain the rail G^3.

In case of two side tracks, as indicated by

dotted lines, Fig. 1 of the drawings, two extra rails can be embodied in the switch in the position shown in dotted lines.

The operation and advantages of my invention will be readily understood and appreciated. By operating the switch-lever the rails of the switch can be carried to cause rail Q to register with rail C^2, rail U with rail B^2, rail G^3 with rail C, and rail D^3 with rail B, when the main track will be closed to trains passing from the rails G and G^2, so that the trains going this way will be switched onto the siding, while the switch will be open to any trains coming from an opposite direction, either from the siding or main track. Thus we have a closed main track and an open siding, which will obviate liability to accident.

I claim as my invention—

1. The combination of the main track and sidings, the continuation of the main track, the rails Q and D^3 of the switch, pivoted at their ends adjoining the continuation of the main track, the rail U, having one end connected to the rail Q and cut down at W, the block or plate A^3, having the groove C^3, the rail G^3, connected to the pivoted end of rail D^3 by spring mechanism, and the sliding blocks or chairs for carrying the rails of the switch and retaining them in position, substantially as and for the purpose set forth.

2. The combination, with the main track and sidings, of the switch, comprising the rail Q, pivoted at R, and formed with the beveled notch S, the rail U, tapered at its end V to correspond to said notch S, and having this tapered end cut down at W, devices securing these rails together, the rail D^3, pivoted at E^3, the rail G^3, having the beveled end F^3, the spring-actuated bolt H^3, for securing these rails together, the plate A^3, having the groove C^3, and the sliding blocks having the recesses that receive the ends of the rails of the switch to operate and retain the same in position, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM W. PENNELL.

Witnesses:
L. M. KANAVEL,
CHARLES YOCUM.