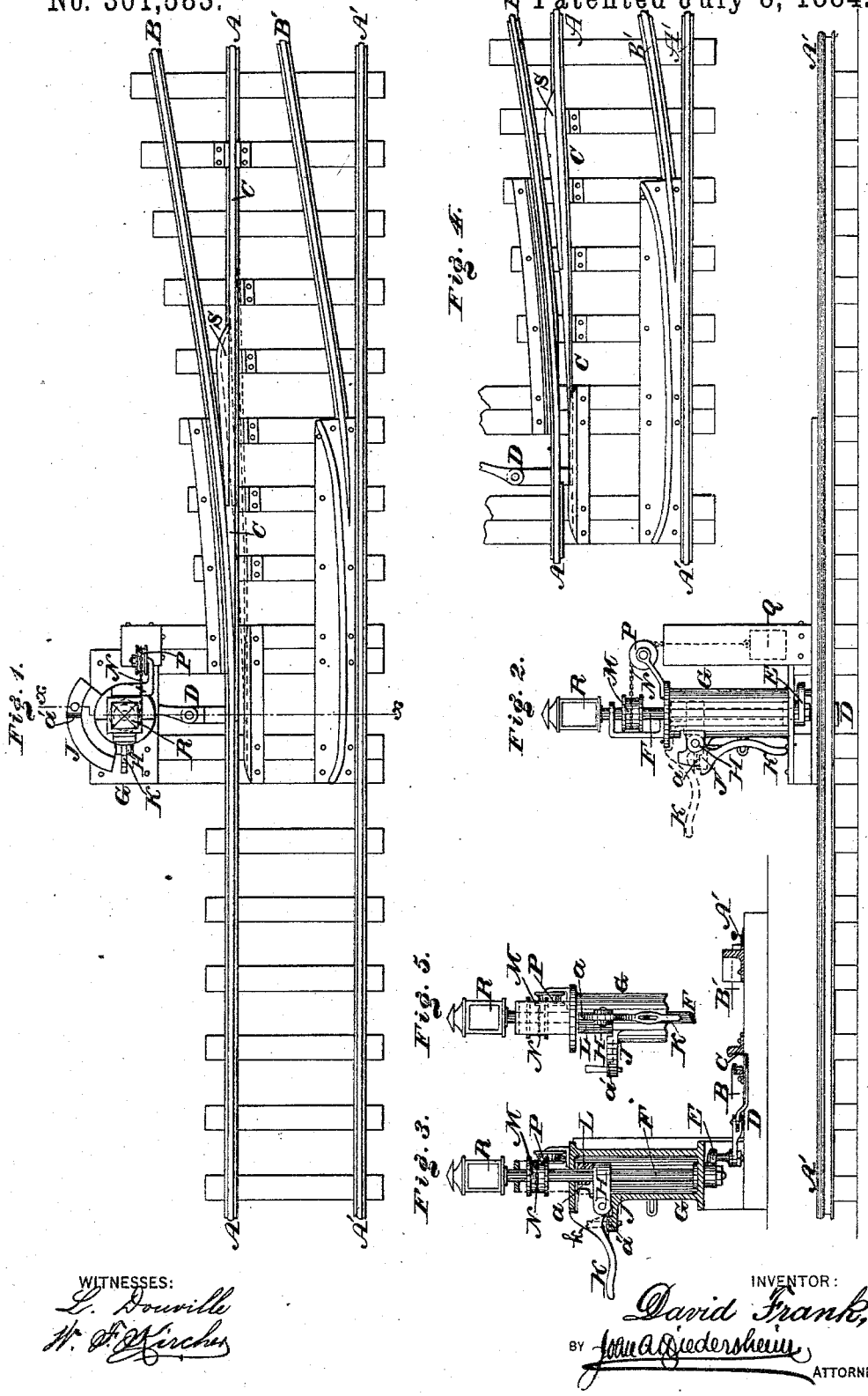
(No Model.)

D. FRANK.

RAILROAD SWITCH.

No. 301,583. Patented July 8, 1884.



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DAVID FRANK, OF ALLENTOWN, PENNSYLVANIA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 301,583, dated July 8, 1884.

Application filed April 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, DAVID FRANK, a citizen of the United States, residing at Allentown, in the county of Lehigh, State of Pennsylvania, have invented a new and useful Improvement in Railroad-Switches, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a plan view of a railroad-switch embodying my invention, the switch being shown set for the main line. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical transverse section taken through Fig. 1 at right angles to the main rails, and a little on one side of the operating-shaft, the switch being shown set for the siding. Fig. 4 is a view of a portion of mechanism embodying the invention shown in Fig. 1, showing the switch open to the siding. Fig. 5 is a side elevation of a detached portion.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to railroad-switches which employ an elastic pointed switch-rail, which is firmly held at the large end; and it consists in combining with said rail certain devices for operating the same, as hereinafter set forth.

It also consists of certain details of construction, as will be hereinafter fully set forth.

Referring to the drawings, A A′ represent the rails of the main track, and B B′ the rails of the siding.

C represents a pointed switch-rail, which is firmly bolted or otherwise rigidly held at the end opposite to the point, so that the rail is elastic, or possesses the nature of a spring throughout its length. Attached to said rail C is a jointed arm, D, which is pivoted to a crank, E, at the lower end of an upright shaft, F, whose bearings are on the switch-stand G.

H represents a collar, which loosely encircles the shaft F, and is supported by a ledge, J, projecting from the stand G, and to said collar is pivoted a lever, K, which may be moved on said ledge J, or swung down at the end thereof. To the shaft F is fixed a collar, L, which is located above the loose collar H, and is formed with a vertical notch, groove, or shoulder, *a*, for the engagement of the nose of the lever K when the latter is raised to a horizontal position.

M represents a grooved or flanged pulley, which is secured to the shaft F, and around the same is wound one end of a cord or chain, N, which is guided over a pulley, P, mounted on the stand G, and has depending from the other end a weight, Q.

At the top of the shaft F is a signal-lantern, R, which moves with said shaft, and indicates the condition of the switch, as is well known. It will be seen that the rail C in its normal position is against the rail B, so that the switch is set for the main track and the continuity of the latter is preserved. When, however, it is desired to move the switch so that the cars may pass to or from the siding, the lever K is raised, whereby it engages with the groove or shoulder *a* and is rotated, so that rotary motion is imparted to the shaft F, and consequently to the crank E, the effect whereof is to move the rail C, whereby the siding is in communication with the main track. A small notch, *a′*, is formed on the upper face of the ledge J, to receive a small tooth, *k*, or projection on the under side of the lever K, so that by the operator pressing down the lever when it arrives over said notch *a′* he may be relieved of the strain incident to the power of the spring-rail C on said lever. After the shifting of the cars is accomplished the lever K is let go or returned, and the rail C, under impulse of its elastic or spring nature, quickly returns to its normal position against the rail B, thus again setting the switch to the main track, it being noticed that should there be any neglect in returning the lever K the rail C will not fail to restore the parts to their normal positions. When the lever K reaches the end of the ledge J, it drops, assuming an upright position, and clears the notch or shoulder *a* of the collar L. The weight Q, acting on the shaft F, assists in returning the rail C, especially should the latter lose any of its power, or be resisted by unusual friction or other obstacles.

To the rail C, opposite to the pointed end on the side adjacent to the rail B, is bolted or otherwise secured an abutment-piece, S, which, besides bearing against said rail B, and serving to take up lateral strain on the rail C, also permits the flanges of the wheels to strike it,

should the cars be coming on the siding to the main track, the switch not having been shifted to permit the same, the action whereof is to force the rail C from the rail B, and place the siding and main track in communication. In this case the shaft F readily rotates, as it is uncontrolled by the lever K, the crank E receiving rotary motion from the movement of the rail C. After the cars have left the switch-rail C the latter closes against the rail B, and the switch is again set for the main track.

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

1. An elastic rail which is held rigidly at one end, in combination with a crank and upright shaft, whereby said rail may be moved for switching purposes, and a pulley, chain, and weight, which operate on said shaft to aid the elasticity of said rail, and restoring the latter to its normal position.

2. The lever K, provided with tooth *k*, and adapted to turn both vertically and horizontally, in combination with fixed ledge J, having a notch adapted to engage with said tooth, and a rotary switch-operating shaft, F, provided with a collar adapted to be engaged by said lever to turn said shaft, for the purpose set forth.

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Witnesses:
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