(No Model.)

G. BENNETT, G. DIKE & W. W. RICH.

RAILROAD SWITCH.

No. 347,987. Patented Aug. 24, 1886.

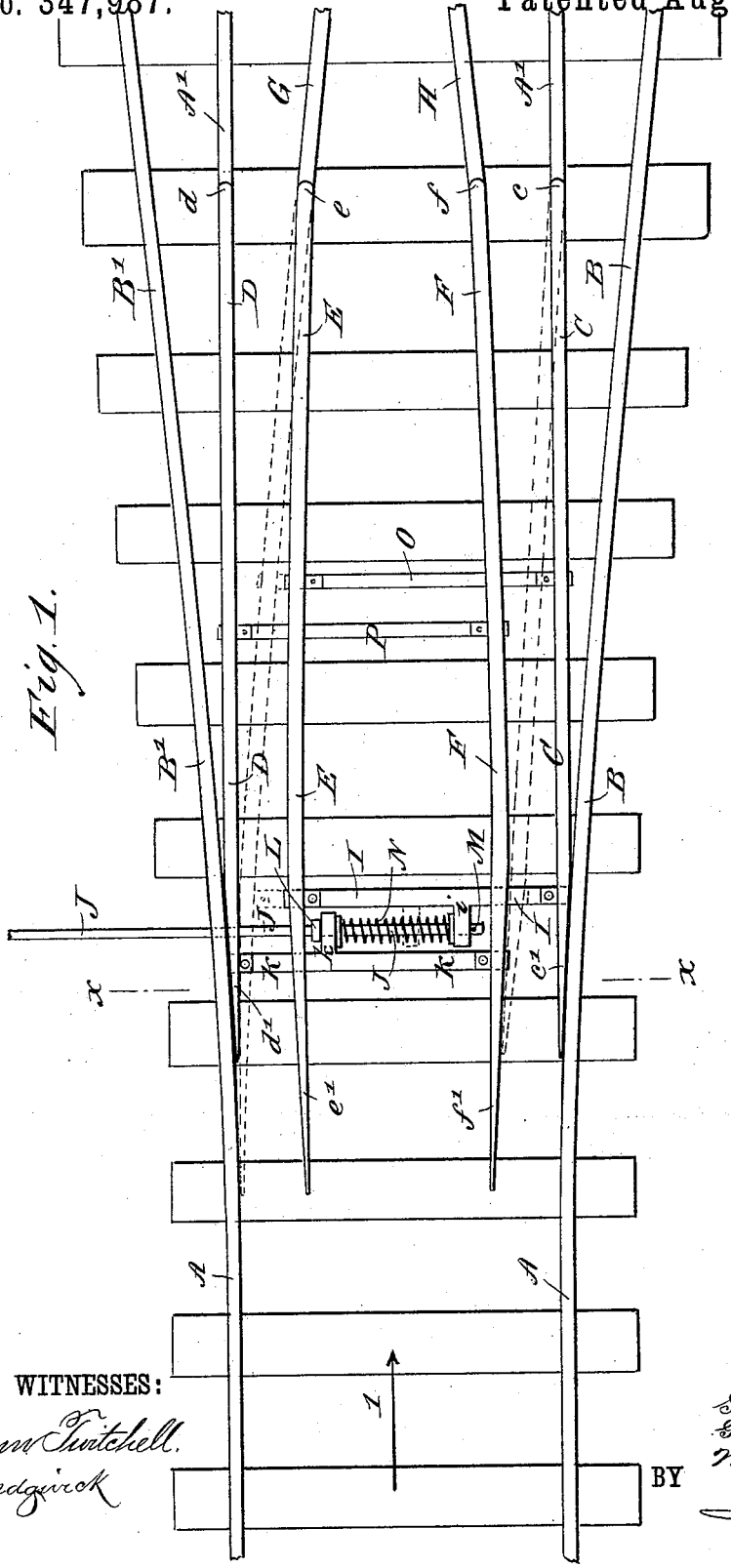

Fig. 1.

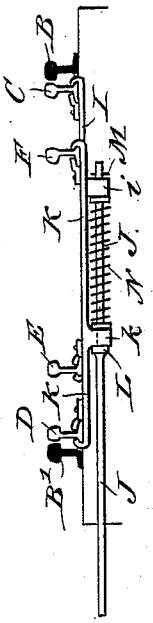

Fig. 2.

WITNESSES:

Donn Twitchell.

C. Sedgwick

INVENTOR:

G. Bennett

G. Dike

W. W. Rich

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE BENNETT, GEORGE DIKE, AND WILLIAM WALLACE RICH, OF LINCOLN, NEBRASKA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 347,987, dated August 24, 1886.

Application filed January 16, 1886. Serial No. 188,803. (No model.)

To all whom it may concern:

Be it known that we, GEORGE BENNETT, GEORGE DIKE, and WILLIAM WALLACE RICH, all of Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and Improved Railroad-Switch, of which the following is a full, clear, and exact description.

Our invention relates to railroad-switches of the class known as "triple" or "three-throw" switches, and has for its object to provide a simple, inexpensive, effective, and safe switch of this character.

The invention consists in certain novel features of construction and combinations of parts of the railroad-switch, as hereinafter fully set forth.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of a railroad-switch constructed in accordance with my invention; and Fig. 2 is a transverse section thereof, taken on the line *x x*, Fig. 1.

The main-line rails A A, approaching the switch, are curved to opposite sides at the switch to form the outside rails, B B′, of the turn-outs to opposite sides of the main track. The rails A′ A′ form the continuation of the main-line rails beyond or at the hinging ends of the outer movable switch-rails, C D, which are pivoted at *c d*, respectively, next the ends of said main rails A′ A′, and the points *c′ d′* of rails C D are adapted to the sides of the turn-out rails B B′, respectively. (See Fig. 1.) The two inside switch-rails, E F, are pivoted at *e f*, respectively, at the ends of the fixed rails G H, the rail G making, with the rail B, the right-hand turn-out, and the rail H making, with the rail B′, the left-hand turn-out. The points *e′ f′* of the movable switch-rails E F extend beyond the points *d′ c′* of the switch-rails D C and quite to the main-line rails A A, whereby the points of the inner rails, E F, may be brought close up to the opposite rails, A A, while the shorter points *d′ c′* of the outer switch-rails, D C, lie between them and the turn-out rails B′ B.

At or near their points the movable switch-rails C E are connected by a cross-bar, I, which has a perforated lug, *i*, through which the bridle-bar J passes, and the switch-rails D F are connected at or near their points by a cross-bar, K, which has a perforated lug, *k*, through which also the bridle-bar J passes. A collar, L, on the bar J, outside of the lug *k*, provides for carrying the point *f′* of rail F over against the rail B when the bridle-bar is pushed inward, or toward the tracks, and a pin, M, in bar J provides for carrying the point *e′* of rail E over against the rail B′ when the bridle-bar is moved outward, or in direction from the tracks.

On the bridle-bar J, between the lugs *i k* of cross-bars I K, is placed loosely the spiral spring N, which normally expands to force the points *c′ d′* of the middle switch-rails, C D, against the adjacent turn-out rails B B′, as in Fig. 1, and thereby hold those switch-rails in line with the rails A A and A′ A′, the switch-rails C D thus normally serving as sections of the main-line rails. When a train moving in the direction of arrow 1 is to turn out to the right hand, the bridle-bar J will be drawn outward by the switch-stand lever, whereby the point *e′* of switch-rail E will be moved to the rail B′, and the point *c′* of switch-rail C will be carried away from the rail B, as in dotted lines in Fig. 1, and the wheels will take the rails E B G; and when the turn-out is to be to the left hand the bridle-bar J will be pushed inward by the switch stand lever, whereby the point *f′* of rail F will be moved to the rail B, and the point *d′* of rail D will be moved from the rail B′, and the car-wheels then will take the rails F B′ H. By setting the switch to either turn-out the spring N will be compressed between the lugs *i k* of the cross-bars I K, and when the bridle-bar J is released from either extreme position the spring will automatically and instantly expand and carry the switch-rails into positions to form continuous main-line tracks, and in which positions the whole power of the spring will be exerted to hold the points of the outer switch-rails, C D, closely to the rails B B′, respectively, to maintain the continuity of the main-line rails, and in which positions the switch-rails may also be held by any approved locking device at the switch-stand.

We make special mention of the extension of the points *e′ f′* of the inside switch-rails, E F, be-

yond the points *d' c'* of the outside switch-rails, D C, whereby when the switch-rails are set to the turn-outs the points of the shorter switch-rails will be completely covered by the points of the longer rails; hence the car-wheels cannot catch upon the points of the rails D C, and safe travel over the switch is assured.

As many intermediate tie-bars, O P, may be employed between the pivots and points of the switch-rails C E D F, respectively, as the length of the rails shall require.

The extreme simplicity and comparative cheapness of this triple switch are evident, as but a single spring is employed; hence there is little chance of derangement of the switch.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, in a railroad-switch, of main-line rails A A, A' A', side turn-out rails, B B', branching from rails A A, fixed rails G H, movable rails C D, pivoted at *c d* at the ends of rails A' A', movable rails E F, pivoted at *e f* at the ends of rails G H, a bar, I, connecting rails C E, a bar, K, connecting rails D F, a bridle-bar, J, passed through lugs of bars I K, and a spring, as at N, acting to force the bars I K and connected rails in opposite directions, substantially as herein shown and described, and for the purposes set forth.

2. The combination, in a railroad-switch, of main-line rails A A, A' A', side turn-out rails, B B', fixed rails G H, movable rails C D, pivoted at *c d* at the ends of rails A' A', movable rails E F, pivoted at *e f* at the ends of rails G H, and the points of rails E F made longer than the points of rails C D, to serve as guards thereto, a bar, I, connecting rails C E, a bar, K, connecting rails D F, a bridle-bar, J, passed through lugs of bars I K, and a spring, as at N, acting to force the bars I K and connected rails in opposite directions, substantially as herein shown and described, and for the purposes set forth.

3. In a railroad-switch, the combination, with the movable switch-rails C E, their connecting-bar I, having lug *i*, and the movable switch-rails D F and their connecting-bar K, having lug *k*, of the bridle-bar J, passed through lugs *i k*, a spring, N, on the bridle-bar, between said lugs, and a collar, L, and pin M on the bar, outside of said lugs, substantially as and for the purposes herein set forth.

GEORGE BENNETT.
GEORGE DIKE.
WILLIAM WALLACE RICH.

Witnesses:
J. H. McMURTRY,
H. L. PERRYMAN.