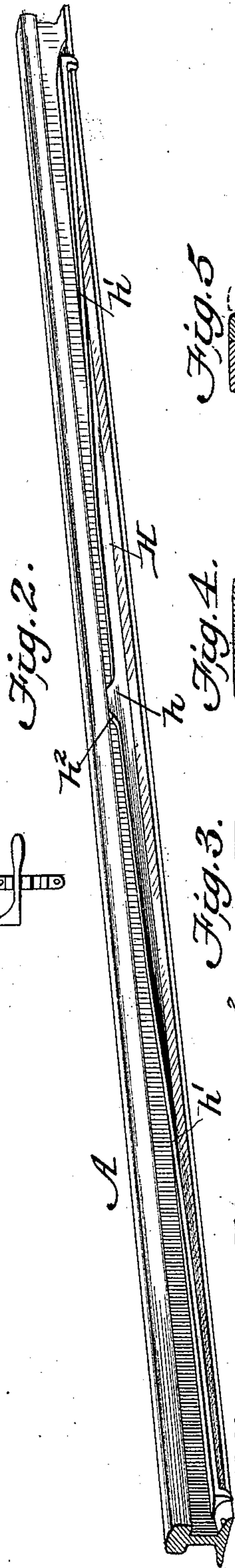
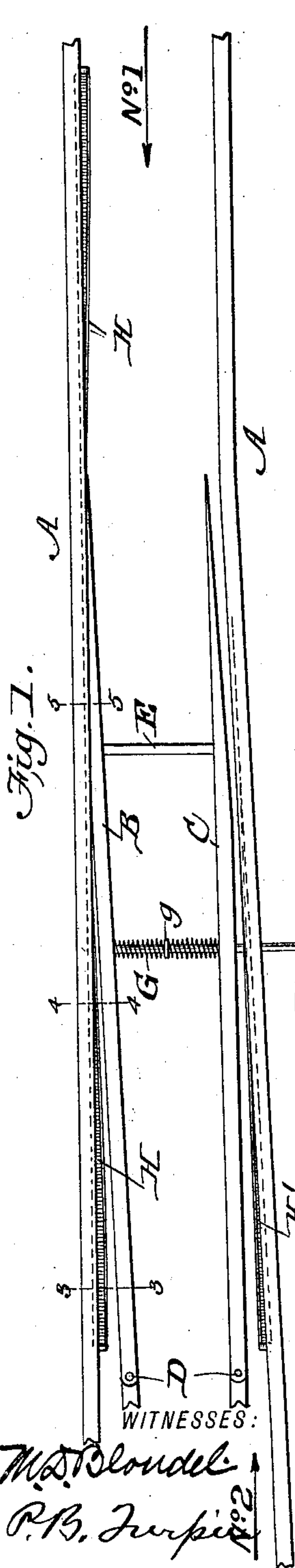


(No Model.)

E. Q. NORTON.
RAILWAY SWITCH.

No. 574,753.

Patented Jan. 5, 1897.



UNITED STATES PATENT OFFICE.

EDWARD QUINCY NORTON, OF DAPHNE, ALABAMA, ASSIGNOR OF ONE-HALF TO DANIEL P. BROWN, OF MOBILE, ALABAMA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 574,753, dated January 5, 1897.

Application filed July 3, 1896. Serial No. 597,961. (No model.)

To all whom it may concern:

Be it known that I, EDWARD QUINCY NORTON, of Daphne, in the county of Baldwin and State of Alabama, have invented a new and
5 useful Improvement in Railway-Switches, of which the following is a specification.

My invention is an improvement in railway-switches, and has for an object to provide a simple easily operated construction whereby
10 the train upon the main line may positively operate the switch-points to insure an open main line whether the train be coming in one direction or the other; and the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be
15 hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a plan view of a switch constructed according to my invention.
20 Fig. 2 is a detail perspective view showing a portion of one of the main-line rails with the point-operating rod or bar alongside the same. Figs. 3, 4, and 5 are cross-sections on about lines 3 3, 4 4, and 5 5 of Fig. 1. Fig. 6 is
25 a detail view showing the pivot of the operating-bar. Fig. 7 shows a somewhat-modified construction, and Fig. 8 is a front view of the locomotive with the actuating devices.

In the construction shown the main-line
30 rails A and the switch-points B and C may be, in general respects, of ordinary construction. The points B and C are pivoted at D and are tied together by a bar E, so they move in unison. These points may be operated by the
35 switch-rod F into register with the main line or the siding, but are not connected rigidly with the said switch-rod but are joined thereto by a yielding connection secured through the medium of a spring G, bearing between
40 the switch-points B and C and secured at its middle to the rod F at *g*, the spring fitting upon the rod F, as best shown in Fig. 1. This construction permits the movement of the switch-points by the rod F and at the same time permits
45 the switch-points to move independently of the said rod F as may be desired in the operation of the device, as more fully described hereinafter. The switch-rod F and the devices for holding it in either position to which
50 it may be adjusted may be of the construction shown or of any other desired construction.

If in operation a train be approaching the switch, as indicated by the arrow No. 1 in Fig. 1, and it is desired to continue on the main line, my improved devices afford means where-
55 by such result may be automatically accomplished. To this end I provide an operating-bar H, extended alongside the switch-point it is designed to operate, provided with a portion *h* to engage and operate said switch-
60 point and with a portion or portions *h'* for engagement by the actuating device.

In the preferred construction, as shown in Figs. 1 to 6, the operating-bar is in the nature of a plate which is given an approximately
65 spiral twist or bend, so that its portion *h* for engagement with the switch-points is in an approximately vertical plane in the normal position of the operating-bar, and the said bar gradually inclines or tapers thence toward
70 the portion *h'*, where the operating-bar is engaged by the actuating device. By this construction the actuating device, whether it be a flange of the locomotive drive-wheel or a projecting tripping-rod I, as shown in Fig. 8,
75 will tend by riding upon the spiral surface of the operating-bar to turn the same gradually and easily, and so avoid the jars or shocks and incident damage which might result from a too rapid actuation of the operating-bar.
80 It is also preferred to provide a small projection *h²* to engage or bear against the switch-point. This double form of operating-bar may be especially preferred for use alongside
85 the unbroken main-line rail and in cases where it is desired to operate the operating-bar by trains running in either direction; but for use on switch-points like C the double form of operating-bar shown in Fig. 2 will not
90 ordinarily be necessary, and the single form of operating-bar shown at H' in Fig. 1 may be employed, such bar being similar in all respects to the bar shown in Fig. 2, except that the portion between the central portion
95 *h* and one end of the double operating-bar is omitted. The purpose of this short form of operating-bar H' (shown in Fig. 1) is to enable the operation of the switch-points by a train coming off the switch in the direction indicated by the arrow No. 2 in Fig. 1 before the
100 weight of such train comes upon the switch-points. Now in operation the operating-bar

may be thrown in ordinary use to set the switch-point B to the dotted-line position shown in Fig. 5, and when the train has passed the spring G will throw the switch-point and the operating-bar back from the dotted-line position, Fig. 5, to the full-line position shown in such figure, but if it is desired to lock the switch-point the operating-bar may be thrown down farther by setting the tripping projection I lower, so the operating-bar will remain in position holding the switch-point in register with the main line until they are released by hand or in other suitable manner.

In Fig. 7 I show a somewhat-modified construction comprising a shaft H², having a crank-arm H³ for engagement by the tripping projection I of the locomotive and a cam H⁴ to engage and operate the switch-point. Manifestly this may be employed in lieu of the operating-bar H or H' without involving a departure from the broad principles of my invention.

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

1. The improved switch comprising the switch-point and an operating rod or bar extended alongside the same and having a portion to engage the said point and a portion for operation by the locomotive or car substantially as shown and described.

2. An improved switch comprising the switch-point and an operating rod or bar extending alongside said point and movable toward and from the same, said rod or bar having a portion to engage the switch and a portion for engagement by the actuating device substantially as shown and described.

3. An improved switch comprising the

switch-point the operating rod or bar extended alongside the same and having at its middle a portion to engage the point and at its opposite end portions for engagement by the actuating device, substantially as shown and described.

4. A switch comprising the switch-point and the operating-bar arranged alongside and movable toward and from the point, such bar being formed of a plate having a portion to engage the point and a portion for engagement by the actuating device and having an approximately spiral twist between said points substantially as shown and described.

5. The improved switch herein described comprising the switch-point, the operating-bar extending alongside the same, and composed of a plate provided between its ends with a portion to engage the switch-point and having between said portion and its ends an approximately spiral twist substantially as shown and described.

6. In a switch substantially as described, the combination of the switch-points, the operating bar or rod arranged alongside and turning toward and from one of the said points and having an intermediate portion to engage the said point and opposite end portions for engagement by the actuating device, and an operating rod or bar arranged alongside the other point and movable toward and from the same the latter bar having a portion to operate the point and a portion for engagement by the actuating device substantially as shown and described.

EDWARD QUINCY NORTON.

Witnesses:

P. B. TURPIN,

SOLON C. KEMON.