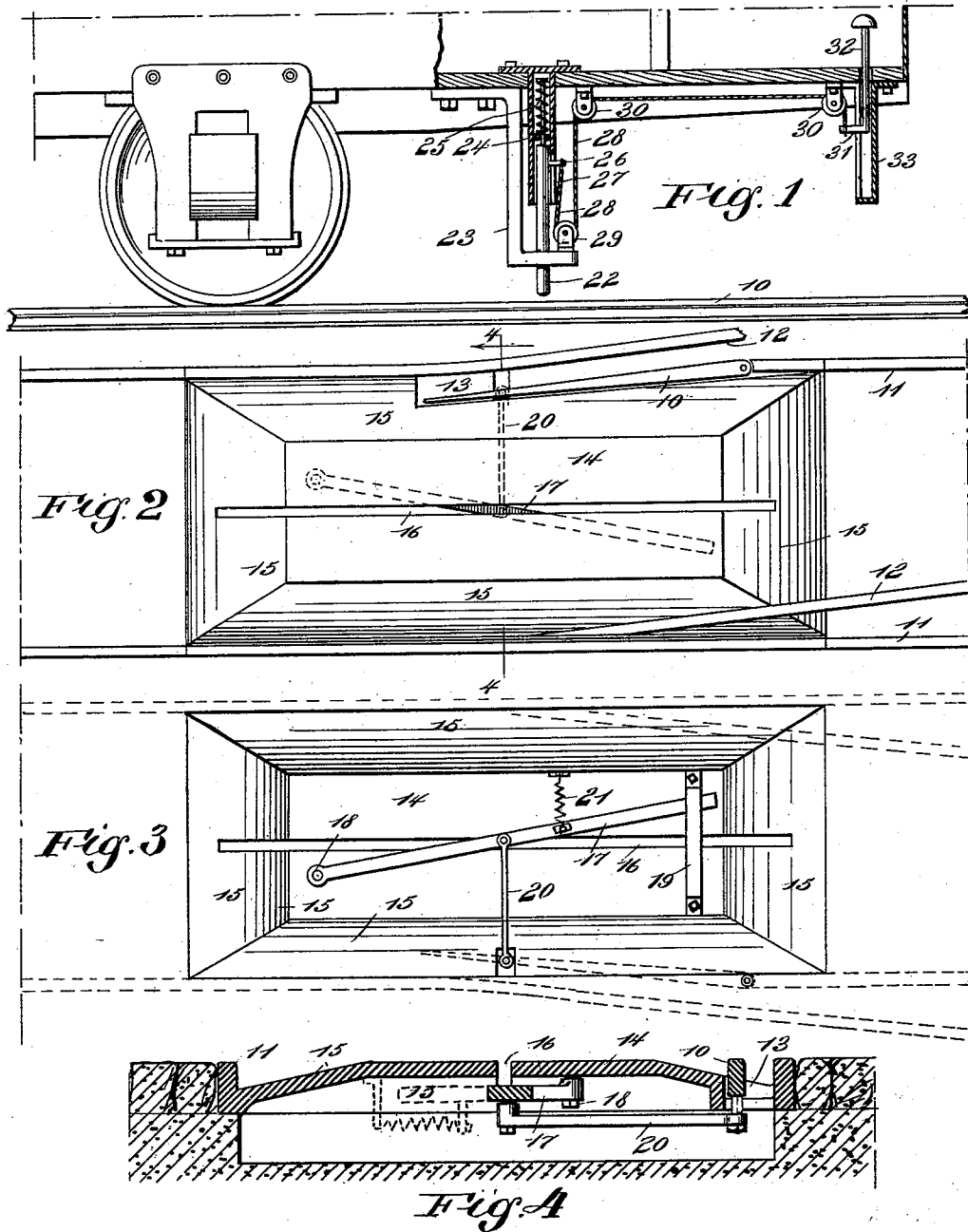


(No Model.)

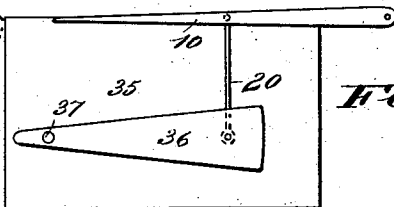
F. B. KRON.
RAILWAY SWITCH.

No. 534,511.

Patented Feb. 19, 1895.



WITNESSES:
John A. Bergstrom
H. B. Hutchinson



INVENTOR
F. B. Kron
BY
Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FREDERICK B. KRON, OF NEW ORLEANS, LOUISIANA, ASSIGNOR OF ONE-HALF TO CHARLES JOHN BADGER, OF SAME PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 534,511, dated February 19, 1895.

Application filed October 13, 1894. Serial No. 525,785. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK B. KRON, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and
5 Improved Railway-Switch, of which the following is a full, clear, and exact description.

My invention relates to improvements in railway switches and switch working mechanism; and the object of my invention is to
10 produce a switch and working mechanism therefor which are very cheap, very strong and durable, which are arranged in such a way that the switch mechanism may be worked and the switch thrown from a rapidly
15 moving train or car without decreasing the speed and without danger of an accident.

A further object of my invention is to construct the apparatus in such a way that it may be applied to railroads and worked from
20 cars of all kinds, and also to arrange the mechanism so that by its movement to and fro it will keep itself clear and unclogged.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

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

Figure 1 is a broken side elevation, partly in section, of that portion of the switch-working mechanism which is carried by the car. Fig. 2 is a plan view of the switch and working
35 mechanism. Fig. 3 is an inverted plan view of the same. Fig. 4 is a cross section on the line 4-4 of Fig. 2; and Fig. 5 is a plan view of a modified form of the apparatus.

The switch has the usual swinging switch
40 point 10, which is pivoted in the ordinary manner at the junction of the main and siding rails 11 and 12, and the switch point moves in a recess 13 of the base plate 14 which is arranged on the roadbed between the rails and
45 has a raised central portion, as shown best in Fig. 4, its sides and ends inclining outward and downward, as shown at 15, while its side edges merge in the main rail 11. By having the central portion of the base plate raised,
50 as shown, it leaves the ends of the longitudinal slot 16 in the plate slightly higher than

the ordinary level of the roadbed, and hence the contact arm, which will be hereinafter described and which moves through the slot to work the switch lever, may pass through at
5 full speed without the least danger of breaking anything. The slot 16 is preferably arranged in the center of the base plate and the contact arm in the corresponding position on the car, but of course the slot and arm may
60 be placed at one side if preferred without changing the principle of the invention.

The slot 16 is crossed at a slight angle by the switch lever 17 which is pivoted on the under side of the base plate, as shown at 18
65 in Fig. 3, and has its free end supported in a suitable keeper 19. The lever connects by a rod 20 with the switch point 10, so that the lever and rod move in unison and the lever is pulled by a spring 21, so as to hold the switch
70 point open, but it is of course evident that the lever may be pivoted on the opposite side of the slot and the spring arranged to hold the switch point closed if preferred, or the lever may be used without a spring.

It will be seen that if an arm of any kind
75 carried by the car passes through the slot 16, it will strike the lever 17 and push it to one side so as to move the switch point, and after the arm passes the lever the spring 21 returns
80 the lever and switch point to the first position. The lever may be worked by any suitable mechanism on the car, but an arm 22 shown in Fig. 1 is preferably used, this being vertically movable in an L-shaped guide bracket
85 23 which is fastened to the car bottom, and the arm extends upward into a case 24 and through a spiral spring 25 which presses the arm upward and holds it out of contact with the lever 17. The arm 22 has on one side a
90 pin 26 which slides in a slot 27 of the case 24, and to this pin is secured a cable 28 which extends downward around a guide pulley 29 on the bracket 23 and then upward and forward over guide pulleys 30 on the car floor
95 to a lug 31 on the foot bar 32, which is movable up and down in the floor, and is held in a casing 33 beneath the car, the lug 31 moving in a longitudinal slot 34 of the casing. By stepping on the foot bar 32 the latter is depressed, the cable 28 pulled and the
100 arm 22 hauled down against the tension of the

spring 25 which returns the arm when the pressure is removed from the foot bar 32 and thus it will be seen that the arm may be readily moved downward when it is desired to work a switch. When the arm is forced down, as specified, it passes through the slot 16, strikes the arm 17 and throws the switch.

In Fig. 5 I have shown a slightly modified form of the apparatus which may be worked by a rigid arm of the car and which employs an unslotted base plate 35 on which is pivoted, as shown at 37, a triangular lever 36 which connects with the switch point by the rod 20 like the lever 17 above described, and by moving the lever 36 to the right or left the switch point 10 may be opened or closed. Any suitable arm may be used to work this lever 36 and with it a spring is unnecessary.

It will be seen that there is nothing about the switch and the working mechanism to get out of order and that the working of the switch lever and switch point serves to prevent the said parts from becoming clogged and unworkable.

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

1. The combination with a switch point, of a base plate having a raised and longitudinally slotted portion, a spring pressed lever having one end pivoted to the under side of the base and extending diagonally across the slot thereof, and a link pivoted to the lever and switch point, substantially as described.

2. The combination with a switch point, of a base plate having a raised and longitudinally slotted portion, a lever pivoted to the under side of the base at one side of the slot

and extending diagonally across the same, a spring connected with the lever and base plate, a keeper on the under side of the base and in which the free end of the lever works, and a link pivoted to the lever and switch point, substantially as described.

3. The combination with the switch point, of a base plate having a raised central portion and inclined sides and ends, one side merging into one of the main rails, and the raised central portion being longitudinally slotted, a lever pivoted on the under side of the base and extending across the slot thereof, a link connecting the lever with the switch point, and a spring connected to the lever and to the base plate, substantially as herein shown and described.

4. The combination with a car, of an L-shaped guide bracket projecting down from the car, a slotted case on the under side of the car and projecting down to within a short distance of the horizontal member of the bracket, an arm working in the case and projecting down through an aperture in the horizontal member of the said bracket, said arm being provided with a pin projecting through the slot of the case, a spring in the case holding the arm raised, guide pulleys on the under side of the car and on the guide bracket, a vertically sliding foot bar on the car, and a cable passing over the guide pulleys and secured to the foot bar and to the pin of the arm, substantially as herein shown and described.

FREDERICK B. KRON.

Witnesses:

J. T. BURKE,
PERCY DUNCAN.