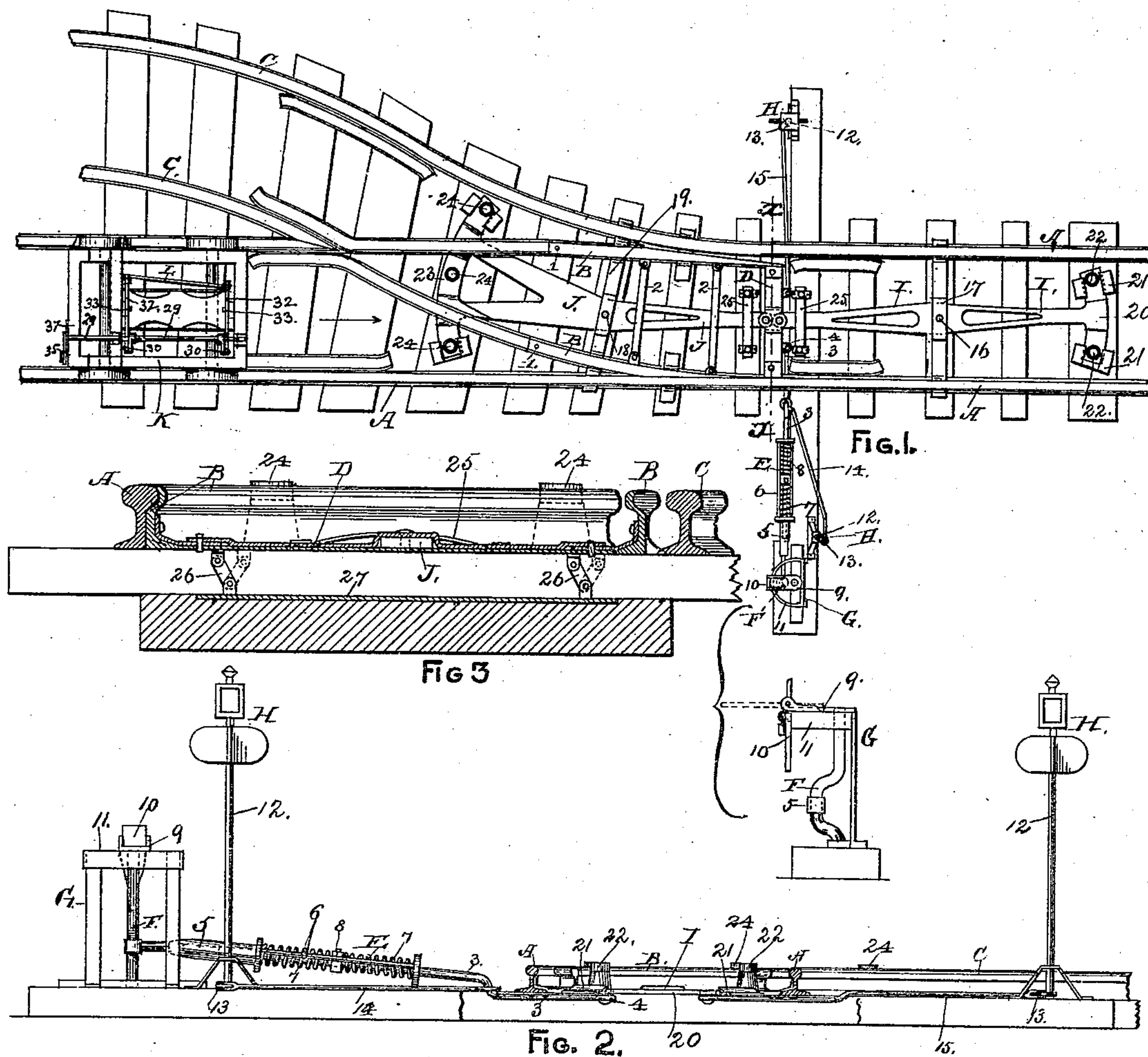


(No Model.)

N. PEAT.
RAILWAY SWITCH.

No. 501,660.

Patented July 18, 1893.



WITNESSES:

S. B. Brewer.
E. Y. Chapman.

INVENTOR:

NELSON PEAT,

BY

William H. Low,
ATTORNEY.

UNITED STATES PATENT OFFICE.

NELSON PEAT, OF COHOES, NEW YORK.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 501,660, dated July 18, 1893.

Application filed October 1, 1891. Serial No. 407,442. (No model.)

To all whom it may concern:

Be it known that I, NELSON PEAT, of Cohoes, in the county of Albany, in the State of New York, have invented new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to improvements in switches for railway tracks; and the object of my invention is to provide means for operating the switch from the foot-board of a locomotive, or from the platform of a car. This object I attain by the means illustrated in the accompanying drawings which, being herein referred to, form part of this specification, and in which—

Figure 1 is a plan view of a railway track provided with my invention. Fig. 2 is an end elevation of the same on an enlarged scale, the locomotive-truck shown in Fig. 1 being omitted therefrom; and Fig. 3 is a transverse section—on an enlarged scale—at the line X X, of Fig. 1.

As represented in the drawings, A designates the track-rails of the direct line of the railway track, B the switch-rails, and C the side-track or turnout. The switch-rails B are pivoted, as at 1, to swing into contact with either of the track-rails A, but not with both of them at a time, and are connected together by means of rods, 2, so as to move as one piece. The swinging ends of said switch-rails are connected by a tie-bar, D, which is connected—by a spring-connection, E—to a vertical crank-shaft, F, which is provided for the purpose of affording the means for operating the switch by hand when occasion may require. The spring-connection E is formed of the following parts: a rod, 3, jointed, as at 4, to the tie-bar D and having its opposite end loosely entering a socket, 5, which is jointed to the crank of the shaft F. Said socket has a cage, 6, secured to the end thereof for the purpose of containing two springs, 7, which are separated from each other by means of a collar, 8, which is secured to the rod 3; the outer end of each of said springs bears the corresponding head of the cage 6, so that when a strain is thrown upon the connection E, in either direction, one of said springs will form a yielding cushion that will permit the switch to be moved in the manner hereinafter described after the shaft F has been secured in a non-

rotative condition. An arm, 9, is secured to the shaft F and is provided with a hasp, 10, which is jointed thereto, so as to extend outwardly for the purpose of serving as a handle for turning said shaft; said hasp is fitted to engage with a staple on the arc, 11, which forms part of the switch-lever frame G of the ordinary construction, and when said hasp is engaged with the staple a lock can be inserted in said staple to hold the arm 9 immovable and thereby any rotative movement of the shaft F will be prevented.

H designates the switch-signals of an ordinary construction; preferably two of said signals are employed—one at each side of the track—and each consists of a lantern and a target mounted on the top of a vertical shaft, 12, having near its lower end an arm, 13, and one of said arms is connected by a rod, 14, to the rod 3, and the arm of the opposite shaft is connected to the tie-bar D by a rod, 15, so as to effect a simultaneous movement of both signals with each movement of said tie-bar; the latter is permanently secured to the two switch-rails B and is jointly-connected to two operating levers, I and J, the first of which is pivoted, as at 16, to a tie-bar, 17, the other being pivoted, as at 18, to a tie-bar, 19, each of said pivots serving as a fulcrum for the lever to which it is appropriated. The operating lever I is provided with a head, 20, which lies between the track-rails A and moves in guides, 21, fixed between said rails, and at the opposite ends of said head there is a friction-roller, 22, pivoted for a purpose hereinafter explained. The operating lever J is provided with a head, 23, which lies between the outer track-rail A and the outer rail of the side-track C, and said head is provided with three friction-rollers, 24, of which one of the outermost ones is arranged between the track-rails of the direct line, the other outermost one being between the outer rail of the side-track C and the adjacent track-rail A, and the intermediate roller being between the last named rail and the part of the rail for the side-track which lies between the track-rails A. The jointed-end of each of the operating-levers is provided with a spring, 25, which bears upon the upper face of the respective levers to force the latter and the tie-bar D down to their respective places when

raised as hereinafter explained. To the lower side of the tie-bar D, there are toggles, 26, whose upper ends are jointed to said tie-bar and whose lower ends are jointed to a bed-piece, 27, in such manner that said toggles can have a swinging movement at opposite sides of the lower pivots of said toggles, the springs 25 yielding sufficiently to permit a slight lifting movement of the tie-bar D, which lifting movement is due to the curvature of the line through which the upper pivots of said toggles have their movement; the inclined position of said toggles, at the termination of each phase of their movement, serves to retain the switch-rails in the required place according to the direction in which said switch-rails have been moved.

My invention is operated in the following manner: When a railway train is approaching a switch and the engineer discerns from the signals H that the switch-rails B are not fixed in the proper position to enable his train to proceed in the required direction, suitable mechanism (not shown) is operated from the locomotive to contact with the friction-roller of the operating-lever of the switch-rails so as to move the latter in the required direction. For example, let it be supposed that a train is moving in the direction indicated by the arrow in Fig. 1, the switch-rails being adjusted to connect the direct line with the turnout. In this case, the mechanism on the locomotive must be operated to cause it to contact with the friction-roller 24 which is on the corresponding end of the head 23, by which means the operating lever J will be swung to carry the switch-rails into the position required to open the direct line of tracks.

My invention can be used on street-rail-

ways to allow the driver, or other employé, who is stationed on the forward end of the car to operate the switches automatically from the platform of the car; and for that purpose the trucks of each car should be provided with suitable mechanism for contacting with the respective friction-rollers.

The switches and means for operating them are substantially the same as those herein shown and described for railways where locomotives are employed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an automatically operating switch the combination with the switch rails having their swinging ends connected by a tie-bar, of the operating levers fulcrumed between the track rails and having their inner ends pivotally secured to said tie-bar, and the opposite ends provided with arms working in suitable guides, and having mounted thereon rollers which project slightly above the upper faces of the track rails, substantially as described.

2. In an automatically operating switch, the combination with the switch-rails, having their swinging ends connected by a tie-bar, of the operating levers fulcrumed between the track-rails and having their inner ends pivotally secured to the said tie-bar, and the opposite ends provided with arms extending at right angles to their fulcrumed portions and provided with rollers projecting above the upper faces of the track-rails, and guides in which the said arms work, substantially as described.

NELSON PEAT.

Witnesses:

WM. H. LOW,
S. B. BREWER.