(No Model.)

B. F. BICKERTON.

SWITCH.

No. 581,099. Patented Apr. 20, 1897.

Fig. 1.

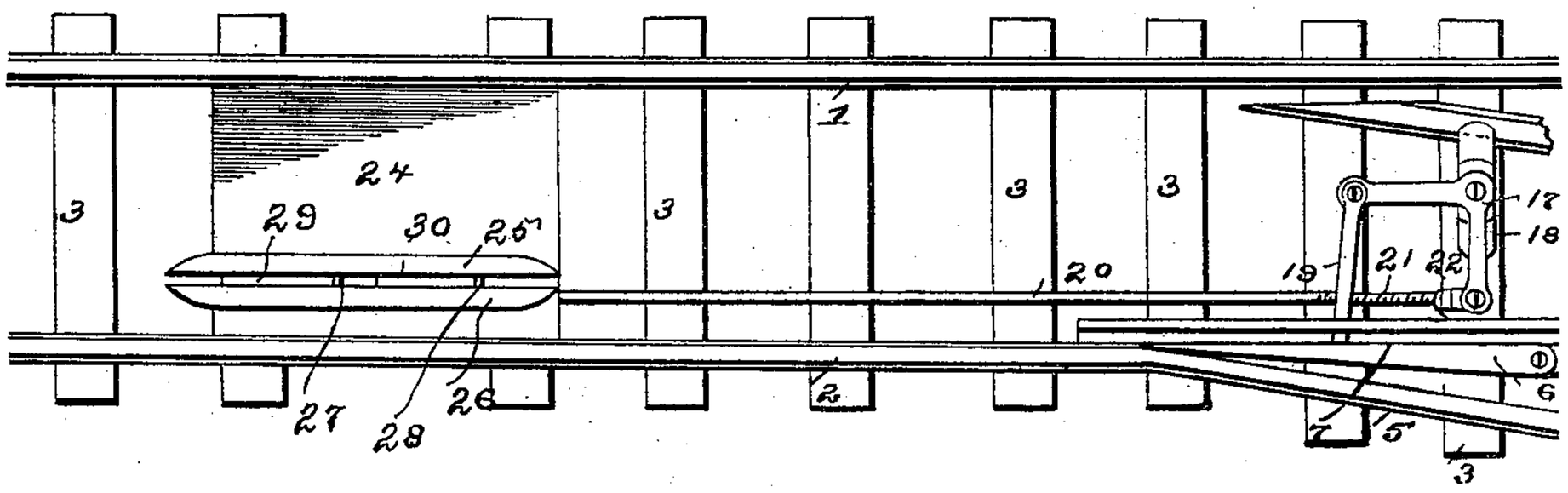
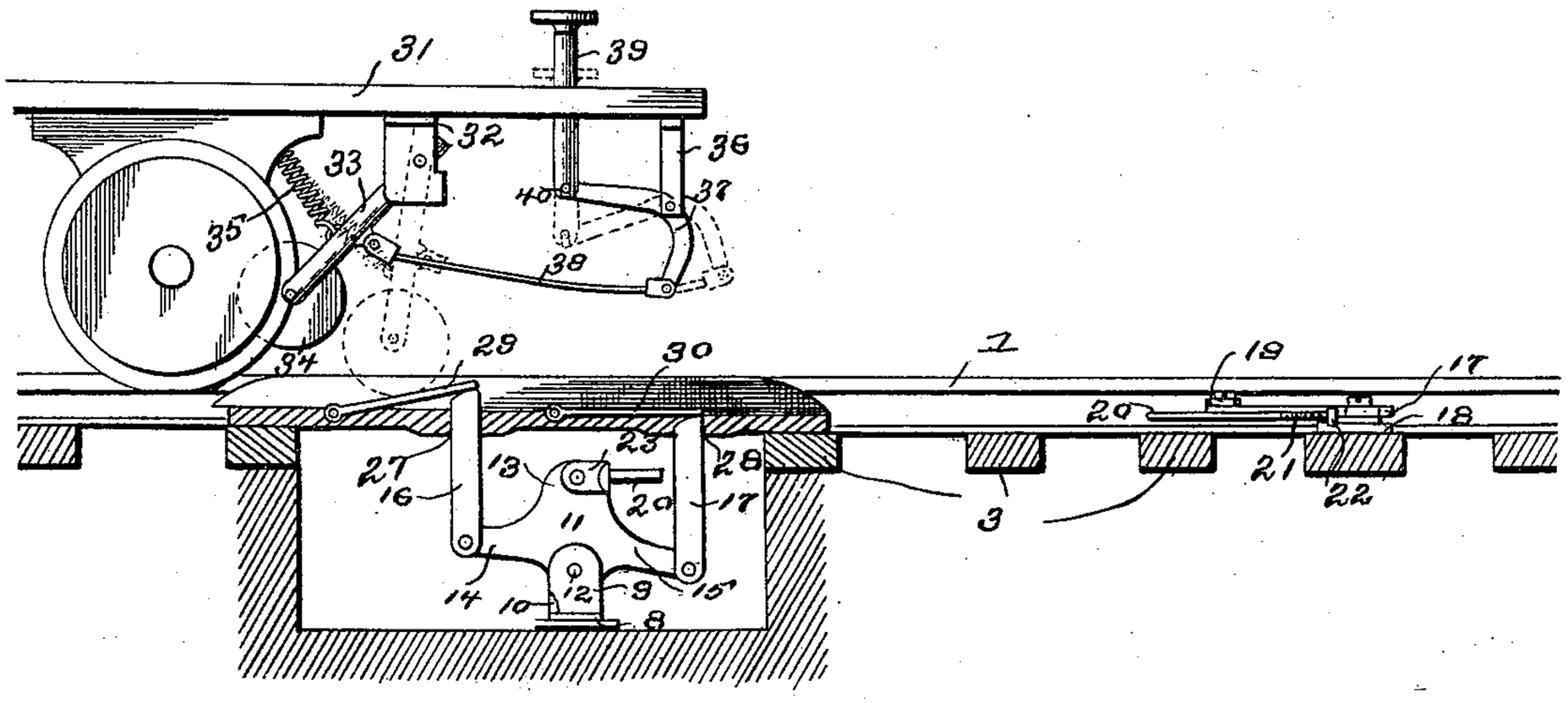


Fig. 2.



Witnesses
C. D. Hosler
K. A. Hayes.

Inventor,
Benjamin F. Dickerton,
by John Wedderburn
Attorney

UNITED STATES PATENT OFFICE.

BENJAMIN F. BICKERTON, OF NEWARK, NEW JERSEY.

SWITCH.

SPECIFICATION forming part of Letters Patent No. 581,099, dated April 20, 1897.

Application filed June 10, 1896. Serial No. 595,056. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. BICKERTON, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to switch-throwers adapted to be operated from a moving car.

The object of the present invention is the provision of improved and simple switch-throwing mechanism which can be easily applied to the ordinary form of switch-tongue, together with improved tripping mechanism actuated from and connected to the moving car.

Having these objects in view the invention consists of certain novel features and combinations, as will appear more fully hereinafter and in the accompanying drawings, in which—

Figure 1 is a plan view of the switch-throwing mechanism as applied to an ordinary railway track and switch; and Fig. 2, a sectional side elevation showing a car equipped with my improved tripping mechanism, full lines representing the normal position of the parts and dotted lines the position during the tripping operation.

The switch-throwing mechanism will first be described.

The main rails of an ordinary railway-track are designated by the numerals 1 and 2 as being supported on ties 3.

The rails of a branch track are shown at 4 and 5.

The numeral 6 designates an ordinary pivoted switch-tongue. The switch-plate or base is transversely recessed, as shown at 7.

A standard 8, suitably secured below the surface of the road-bed, is provided with upwardly-extending arms 9 and 10. A rocking plate or lever 11, received between these arms, is journaled on a horizontally-disposed spindle 12. This rocking plate is provided with an upper lever-arm 13 and two lower lever-arms 14 and 15, respectively. Tripping-bars 16 and 17 are pivotally connected to these lower arms. A bell-crank lever 17, pivotally mounted on a suitable chair 18, is adapted for horizontal movement. A link 19, adapted for movement in recess 7, has its respective ends pivotally connected to the switch-tongue and to one arm of the bell-crank lever. A connecting-rod 20 has one screw-threaded end 21 adjustably connected to a pivot-plate 22, which is pivoted to the other arm of the bell-crank-lever, and the other end connected to a second pivot-plate 23, that is pivoted to the upper arm of the rocking plate.

A plate 24, connected to ties immediately over the rocking plate, is provided with parallel guides 25 and 26, between which are situated apertures 27 and 28, through which the upper ends of the tripping-bars pass. Pivoted tripping-tongues 29 and 30 have their free ends resting on upper ends of the tripping-bars, as shown.

An ordinary car is represented at 31, and being provided with duplicate tripping mechanism at its ends a description of one will suffice.

The numeral 32 designates a hanger secured to the bottom of the car. The upper end of a tripping-lever 33 is pivoted in this hanger, so that the lever will be adapted for longitudinal movement. A wheel 34 is journaled in the free end of this lever. A coil-spring 35, fastened to the lever and the car-body, tends to keep the lever inclined toward the center of the car. A second hanger 36 affords a pivoted connection for a bell-crank lever 37, whose lower arm is connected to the trip-lever by a rod 38. A removable bolt 39 passes through the car-platform, straddles the upper arm of the bell-crank lever, and rests on pin 40, projecting therefrom. This bolt is under the control of the motorman or operator, and when depressed actuates the connecting mechanism and draws the tripping-lever to a substantially vertical position and into engagement with the pivoted tripping-tongues 29 and 30, as shown in dotted lines.

Assuming that the car is on the main line, which is unbroken and approaching the switch, if the car is to keep to the main track the mechanism is not used. If, however, it is desired to run onto the branch line, the switch may be thrown in the following man-

ner: The operator depresses the bolt and holds it depressed until after the first tripping-tongue has been passed. He then releases it. When the wheel 34 comes in contact with the tripping-tongue, it and the tripping-bar immediately below are depressed and the rocking plate moved, whereupon the connections shift or throw the switch-tongue, breaking the main line and allowing the car to run onto the branch line. When the rocking plate moves, the free tripping-arm and tripping-tongue are thrown up. Hence the necessity of releasing the bolt before they are reached. A second car following the one just mentioned could keep the main track if the operator depressed the free or raised tripping-tongue, thereby rethrowing the switch-tongue.

Both ends of the car are provided with tripping mechanism, so that the switch can be thrown when the car is proceeding in either direction.

It is to be understood that I do not limit myself to the precise construction herein shown and described, but consider myself entitled to all such variations as come within the spirit and scope of the invention.

Having thus described the invention, what is claimed as new is—

In a switch-throwing mechanism, the combination of a rocking plate disposed in longitudinal relation to the rails of the track and pivoted at its central point, tripping-bars pivoted to the ends of the rocking plate, a guide extending longitudinally in relation to the track and having openings which receive the upper free ends of the tripping-bars, said guide having a slot, tongues lying in said slot and pivoted to the guide, said tongues having their free portions resting on the upper ends of the tripping-bars, a pivoted switch-tongue, a bell-crank lever, a connection between one arm of the bell-crank lever and the switch-tongue and a rod connecting the other arm of the bell-crank lever with the rocking plate, whereby when the latter is moved, the switch-tongue is actuated.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BENJAMIN F. BICKERTON.

Witnesses:

THOS. F. CONCANNON,

CHARLES H. DAVIS.