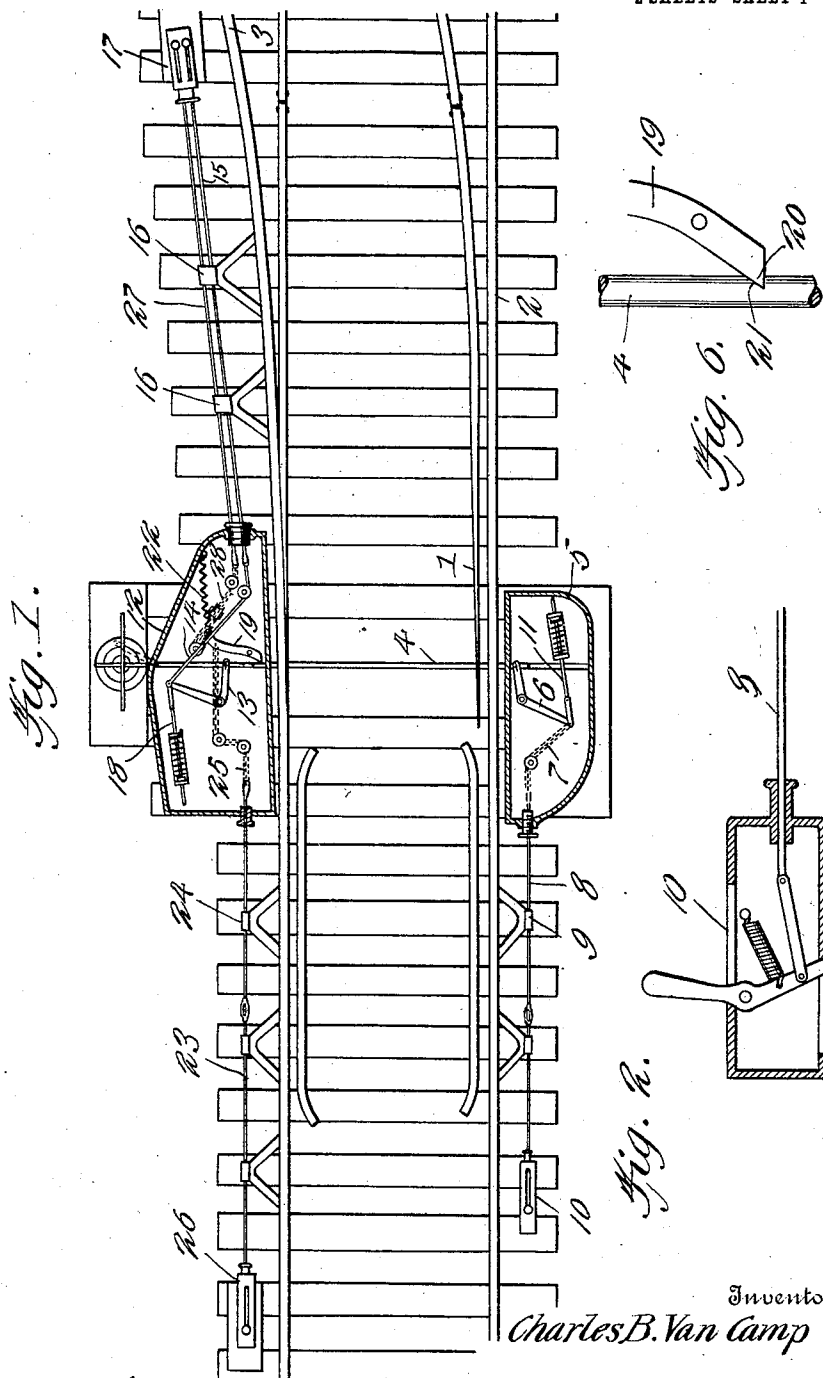


968,293.

C. B. VAN CAMP.
RAILROAD SWITCH.
APPLICATION FILED SEPT. 21, 1909.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1



Witnesses
Frank B. Hoffman.
D. W. Gould.

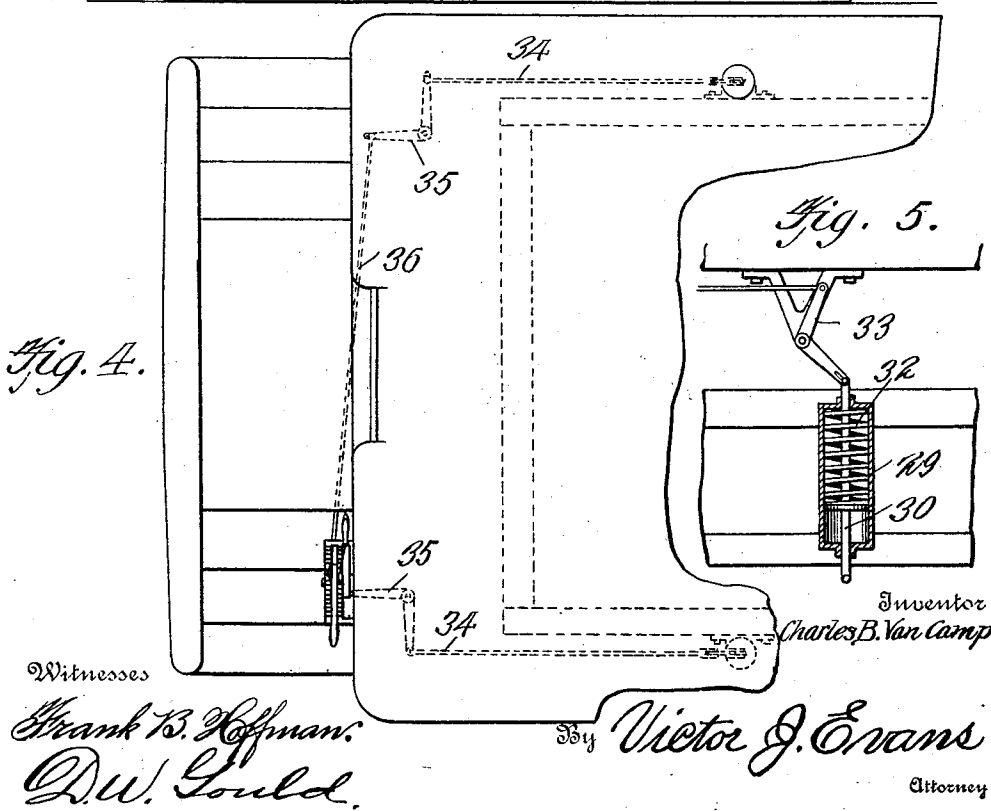
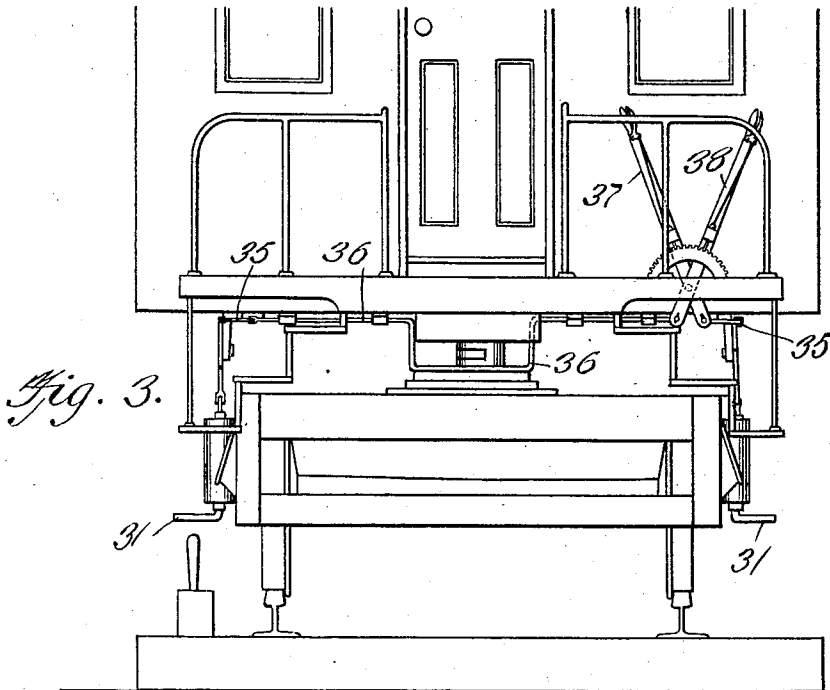
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By Victor J. Evans
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UNITED STATES PATENT OFFICE.

CHARLES B. VAN CAMP, OF ATKINS, MICHIGAN.

RAILROAD-SWITCH.

968,293.

Specification of Letters Patent.

Patented Aug. 23, 1910.

Application filed September 21, 1909. Serial No. 518,754.

To all whom it may concern:

Be it known that I, CHARLES B. VAN CAMP, a citizen of the United States, residing at Atkins, in the county of St. Clair and State of Michigan, have invented new and useful Improvements in Railroad-Switches, of which the following is a specification.

The invention is directed to an improved switch operating mechanism, whereby a moving train may control the set of the switch at the pleasure of the trainmen.

The main object of the present invention is the provision of a switch operating mechanism combined with controlling devices arranged upon the cars and engine, whereby the trainmen on approaching the switch can control the set of the same to cause the train to take the siding or continue on the main track, and in the former event to close the switch after the travel of the train upon the siding.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a plan, partly in section, illustrating a switch controlling mechanism. Fig. 2 is a vertical section, partly in elevation, of the trip device. Fig. 3 is a rear elevation of the car, showing the trip controlling mechanism thereon. Fig. 4 is a plan of the same. Fig. 5 is a broken sectional detail partly in elevation, showing the mounting of the switch trip. Fig. 6 is an enlarged broken plan, showing the locking mechanism.

Referring particularly to the accompanying drawings, my improved switch controlling mechanism is designed to control the movable points 1 of a switch and by such control to cause a traveling train to continue on the main track 2 or into the siding 3.

The points 1 are connected by a tie rod 4, which extends beyond the rails, so that in the operation of the rod the points will move in unison. On one side of the rails the end of the tie rod 4 extends through a casing 5 and within the casing is connected to an angle lever 6 pivotally mounted for movement. The rod 4 is connected to the terminal of the shorter arm of the lever, while the longer arm is connected through the medium of a flexible connection 7 to one end of an operating rod 8, which extends length-

wise the track through guides 9 to a trip casing 10, which will be more particularly hereinafter described. A pull upon the rod 8 is designed to so operate the lever as to open the switch, that is move the points so as to connect the siding with the main track, and said lever, or more particularly the long arm thereof is within the casing connected to a spring actuated pull rod 11, which is arranged to operate the lever in opposition to the pull upon the rod 8. Therefore, upon release of the pull on the rod 8 the pull rod tends to return the switch to normal position, that is to open the main track.

The opposing end of the tie rod 4 passes through a casing 12 mounted upon the rails or track bed on the opposing side of said track relative to the casing 5. Within the casing 12 the rod 4 is connected to the shorter arm of an angle lever 13, the longer end of which is by a flexible connection 14 secured to an operating rod 15 extending through guides 16 to a trip casing 17 located beyond the switch and alongside of one of the siding rails. A spring pressed draw bar 18, similar to the draw bar 11 in the casing 5 is also connected to the angle lever 13 in opposition to the connection of the operating rod 15 thereto, said draw bar serving to normally hold the switch points open for the main track, it being understood that the respective angle levers 6 and 13 are, when actuated by a pull upon the operating rods 8 and 15, effective to move the switch points in the same direction, that is to open the siding.

Arranged within the casing 12 is a locking lever 19, formed at one end with a point 20 to engage a notch 21 in the tie bar 4. The locking lever is so arranged and the notch 21 so formed in the tie bar that said lever will engage said notch when the switch points are set to open the siding, a spring 22 connected to the wall of the casing and to the end of the locking lever serving to normally induce notch-engaging movement of the lever. An unlocking rod 23 extends lengthwise the main track from the switch points, being mounted in guides 24 and at its rear end extending within the casing 12 and connected by a flexible connection 25 with the unlocking lever, the arrangement being such that a pull upon the rod 23 will release the lever 19 from locking engagement with the tie rod 4. At the

forward end the unlocking rod 23 passes into a trip casing 26, hereinafter more particularly described. A second unlocking rod 27 extends rearwardly from the casing 12 alongside of the operating rod 15, said unlocking rod 27 being, within the casing, connected by a flexible connection 28 to the locking lever, the connection passing over pulleys thereon so arranged that in a pull upon the unlocking rod 26 the lever 19 will be operated to release the tie rod 4.

For operating the trips, I mount upon opposite sides of the car trucks cylinders 29 in which are arranged trip rods 30 having their lower ends bent laterally, as at 31. Springs 32 encircle the rods within the cylinders operating to assist in depressing the rods. The upper ends of the trip rods are connected by angle levers 33, pivotally mounted on suitable supports, to connecting rods 34 and said rods are in turn connected to angle levers 35 pivoted on the car body, the latter levers being connected by tie rods 36 to hand levers 37 and 38 arranged on the platform of the car for operating the trips, whereby either trip may be depressed.

In approaching the switch and desiring to set the same for the siding, the operator will depress that trip arranged to engage the trip lever in the casing 10, so that the switch points will be moved to open the siding, as will be plain from Fig. 1. If the train in approaching the switch finds the same set for the siding and desires to take the main track, the trip rod cooperating with the casing 26 will be depressed, thereby releasing the locking lever and permitting the spring to force the switch to normal position. If the train is on the switch and approaching the main line and the points are not set for continuous travel, the operator will depress the proper trip rod, swing the trip levers in the casing 17 thereby releasing the locking lever 19 and throwing the points so as to

permit the train to travel on to the main track from the switch.

The device thus provides a simple mechanical control for switches by which the trainmen can set the train either from the main line or siding as may be necessary in the particular instance, and in this connection it is to be understood that I contemplate, as within the spirit of the present invention, all such changes and modifications as may fall within the scope of the appended claims.

I claim:—

1. The combination with switch points, of a bridle, oppositely arranged angle levers connected to the respective ends of the bridle and serving in operation to actuate the bridle in the same directions, trip levers located at opposite and remote points and connected respectively to the angle levers, spring means for operating each of the angle levers in opposition to the operating means, and a lock to engage and hold the bridle in one position.

2. The combination with switch points, of a bridle, oppositely arranged angle levers connected to the respective ends of the bridle and serving in operation to actuate the bridle in the same directions, trip levers located at opposite and remote points and connected respectively to the angle levers, spring means for operating each of the angle levers in opposition to the operating means, a lock to engage and hold the bridle in one position, and oppositely and remotely positioned trip levers for operating the lock in the same direction.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES B. VAN CAMP.

Witnesses:

JOHN L. BLACK,
JEAN DOWN.