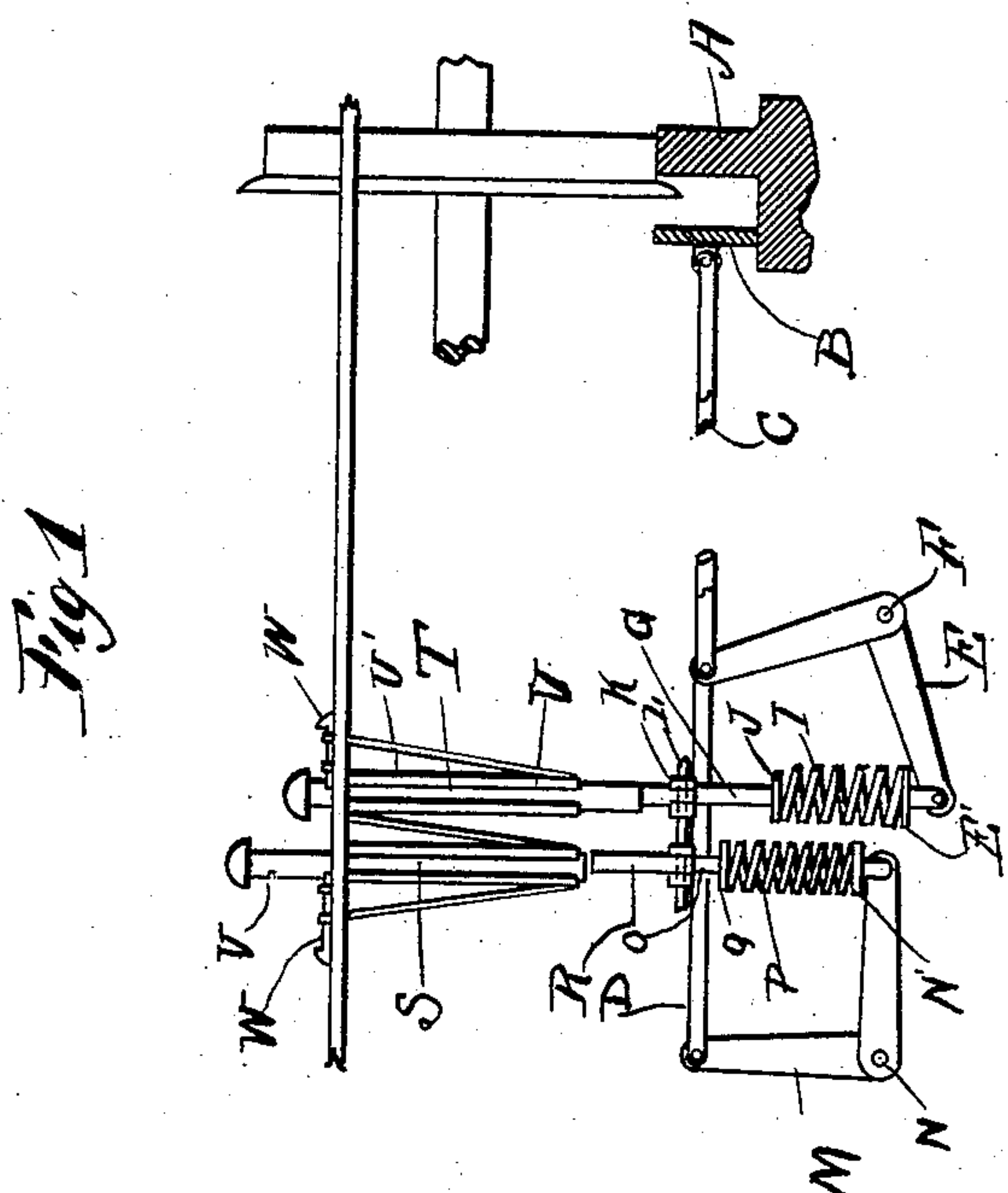
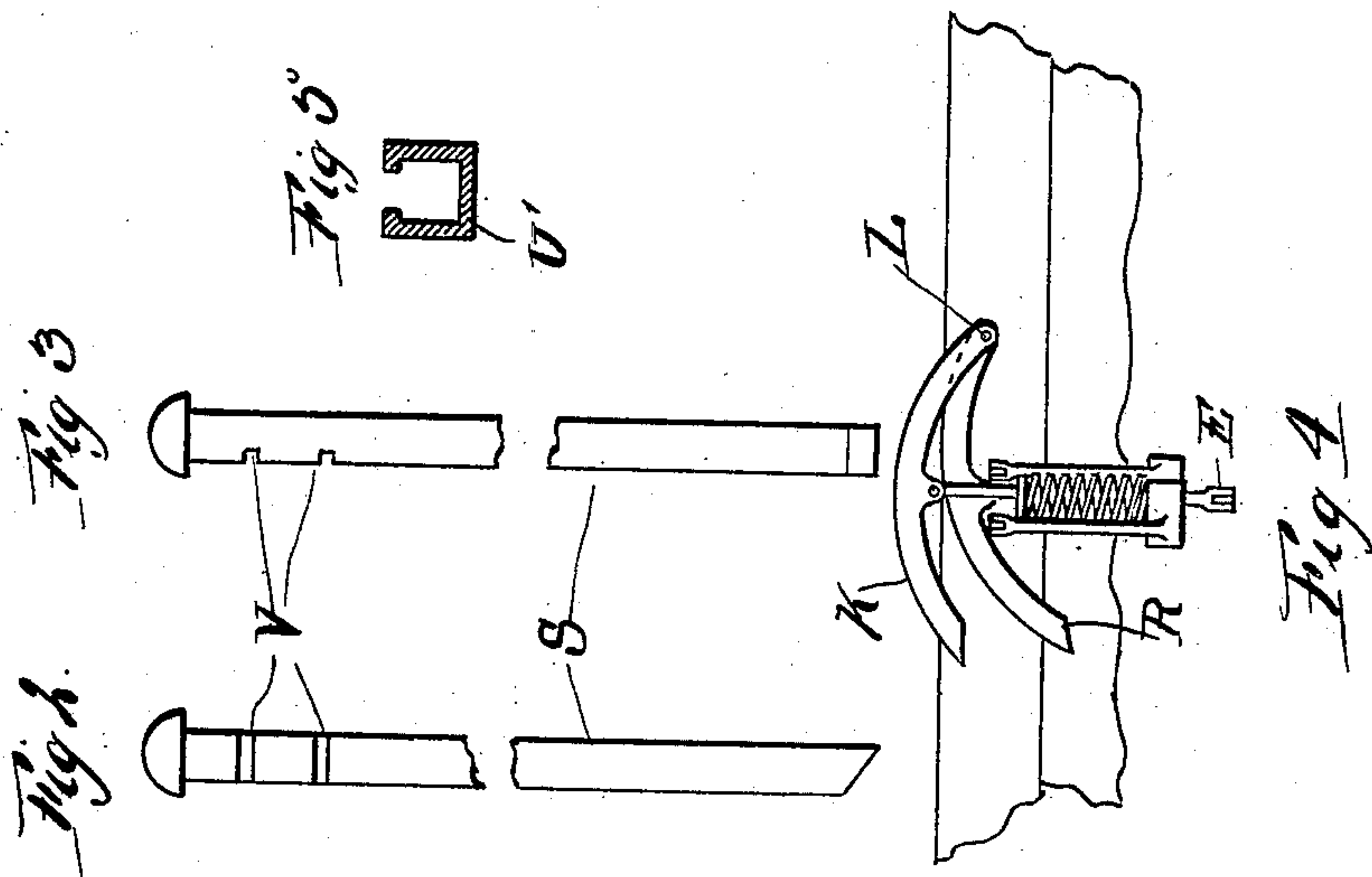


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RAILWAY SWITCH.
APPLICATION FILED AUG. 12, 1908.

914,976.

Patented Mar. 9, 1909.
2 SHEETS—SHEET 1.



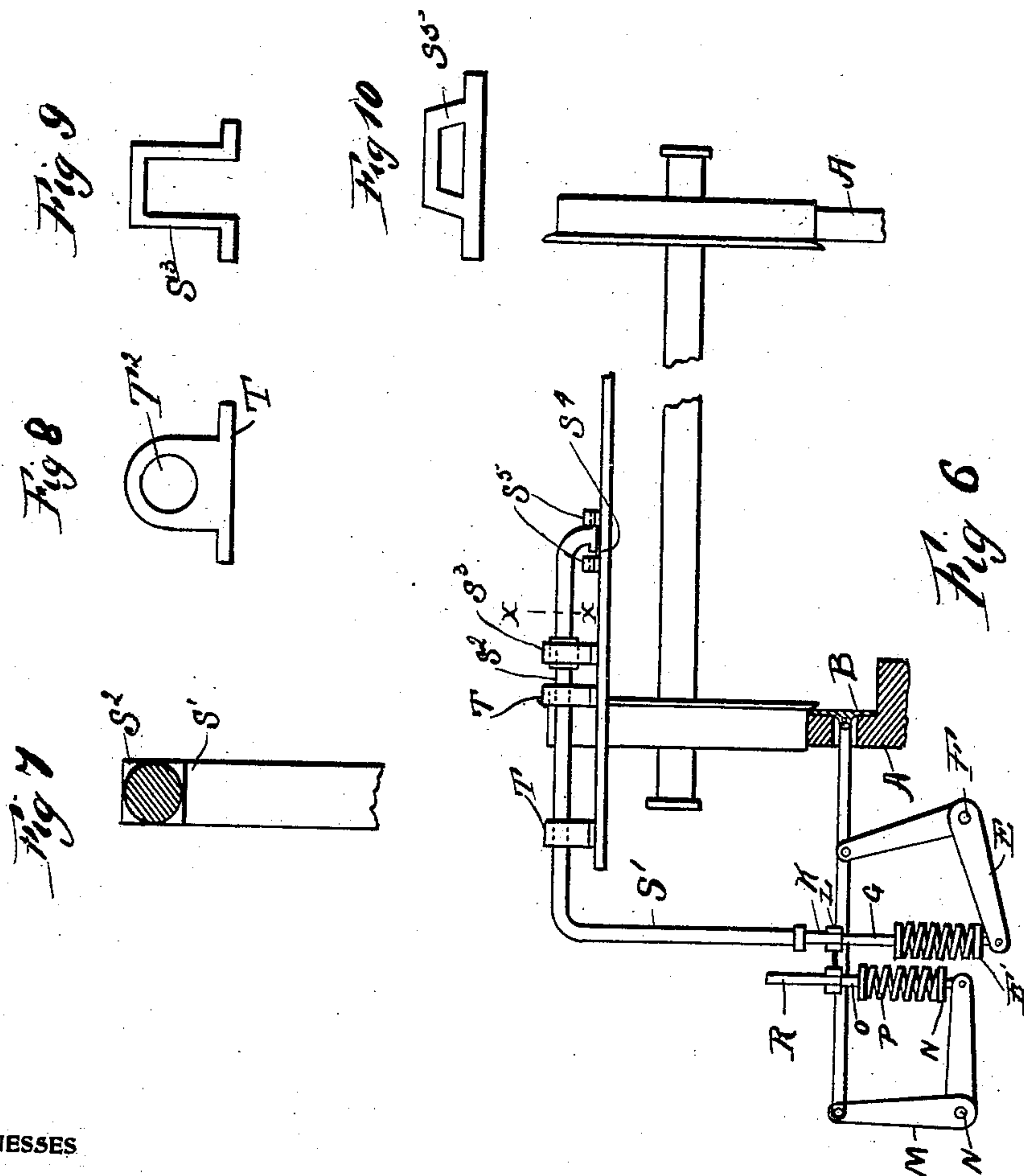
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UNITED STATES PATENT OFFICE.

HOWARD REED, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY-SWITCH.

No. 914,976.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed August 12, 1908. Serial No. 448,097.

To all whom it may concern:

Be it known that I, HOWARD REED, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Railway-Switches, of which the following is a specification.

My invention relates to new and useful improvements in railway switches, of the type in which the switch point is operated by means mounted on a car, and has for its object to provide an exceedingly simple and effective device of this character which will be comparatively inexpensive to manufacture.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same I will describe its construction in detail referring by character to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a view in elevation of my improved switch operating mechanism, the track and switch point being shown in section. Fig. 2, a view in elevation of one of the operating rods. Fig. 3, a similar view taken at right angles of Fig. 2. Fig. 4, a view in elevation of the curved or operating levers with which the operating rods are adapted to come in contact. Fig. 5, a horizontal, sectional view of the casing in which the operating rods are adapted to slide. Fig. 6, is a slightly modified form of switch operating mechanism in which the means that is on the car extends to the side instead of the center of the car. Fig. 7, is a sectional view of the line X—X of Fig. 6. Fig. 8 is a view of one of the brackets which holds the operating rod. Fig. 9, a view of another one of the brackets, and, Fig. 10, a view of another bracket.

In carrying out my invention as here embodied, A represents the rails of the track, and B the switch point. Placed between the track rails and pivoted to the switch point are one end of the rods C and D, and pivoted to the opposite end of the rod C is one end of the bell crank lever E which is pivoted at F, and fastened to the opposite end of this bell crank lever E is the plate E'

to which is attached one end of the spiral spring I, the opposite end resting against the plate J, which is secured to the rod G. To the upper end of the rod G is pivoted the curved lever K, one end of which is pivoted at L, the other end being free to move up and down within certain limits. One end of the rod D is pivoted to one end of the bell crank lever M, which is pivoted at N, and to the opposite end of this bell crank lever is secured the plate N' to which is attached the lower end of the spiral spring P, and the opposite end rests against the plate Q, similar to the plate J which is secured to the rod O.

Pivoted to the rod O is the curved lever R, one end of said curved lever being pivoted at L, the other end being free to move up or down, the same as the curved lever K. These parts may be incased in the casing placed beneath the surface, and over this may be placed a top with openings therein, which will allow the curved levers to extend up above the same. The curved levers K and R are the ones which are engaged by a member carried by the car, and actuated thereby to throw the switch. The two actuating rods S and T are conveniently mounted in the car and are capable of moving up and down, so that when one rod is lowered and engages with one of the curved levers the switch point would be shifted in one direction, and when the other rod is lowered it will engage with the other curved lever, and will therefore shift the switch point in the reverse direction. These rods S and T extend downward through the floor of the platform of the car and are held securely to the car and prevent it from moving from one side to the other, and by the guides which are held stationary by the braces U', which extend downward from beneath the car. In the side of these rods S and T in proximity to their upper ends are formed the notches V, and on the floor of the car are placed bolts W which engage with these notches for holding the rods up or down as the case may be.

In practice when the car operates a switch the proper actuating rod S or T is let down into engagement with one of the curved levers K or R, and as the actuating rod comes in engagement with one of the curved levers it will depress, which will cause the lower end of one of the bell crank levers to move downward and this will cause the opposite end to move to one side, and through the medium of

one of the rods C or D will open or close the switch, and when this switch is opened it will cause the other bell crank lever to move in the opposite direction, causing the curved lever to which it is attached to move upward, which will be in a set position for the next car.

In my modified form I have a switch actuating mechanism close beside the track instead of in the center thereof, and for operating these I provide an angular rod S' on which is formed a square portion S² adapted to slide within the square bracket S³. On the end of the rod S' which is fastened to the car are formed the extensions S⁴ which are adapted to engage with the brackets S⁵ for securely holding the same in position. T represent brackets having circular openings T² in which the rod S' is adapted to rest, and this is rounded so that when the square portion S² is disengaged from the square bracket S³ the outer end of the rod may be drawn upward so that it will engage with either of the curved levers. In practice by moving the rod S' to one side or the other it will cause it to engage with one of the curved levers which will cause the switch to be operated as before described.

Of course I do not wish to be limited to the exact details of construction here shown as these may be varied without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, is—

1. In a switch operating mechanism, in combination with a switch point, rods pivoted thereto, bell crank levers pivoted to said rods, plates attached to said bell crank levers, curved levers one end of which are pivoted, vertical rods fastened to the curved levers, plates secured to the ends of these vertical rods, spiral springs one end of which rests against the first named plates, the opposite end against the last named plates, ac-

tuating rods carried by the car and being moved practically independent of one another so as to engage with the curved levers, the upper end of said rods having notches formed therein, bolts fastened to the car adapted to engage with said notches, guides in which actuating rods are adapted to slide, and braces for stationarily holding said guides in position, as shown and described.

2. In a switch point operating mechanism, in combination with a switch point, rods pivoted thereto, bell crank levers pivoted to said rods, plates secured to said bell crank levers, curved levers one end of which are pivoted, and to these are pivoted vertical rods, plates attached to the lower ends of these rods, spiral springs one end of which are adapted to rest against the first named plates, the opposite ends against the last named plates, an angular rod carried by the car and being movable so as to engage with one or the other of the curved levers, and means for holding said rod in different positions, as shown and described.

3. In a switch point operating mechanism, in combination with a switch point, rods pivoted thereto, bell crank levers pivoted to said rods, plates attached to the bell crank levers, curved levers, one end of which are pivoted, vertical rods pivoted to said curved levers, plates fastened to the lower ends of said vertical rods, spiral springs one end of which are adapted to rest against the first named plates, the opposite end against the last named plates, and means carried by the car actuating the switch point, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

HOWARD REED.

Witnesses:

FANNIE P. LEES,
WM. CLEMENT LEES.