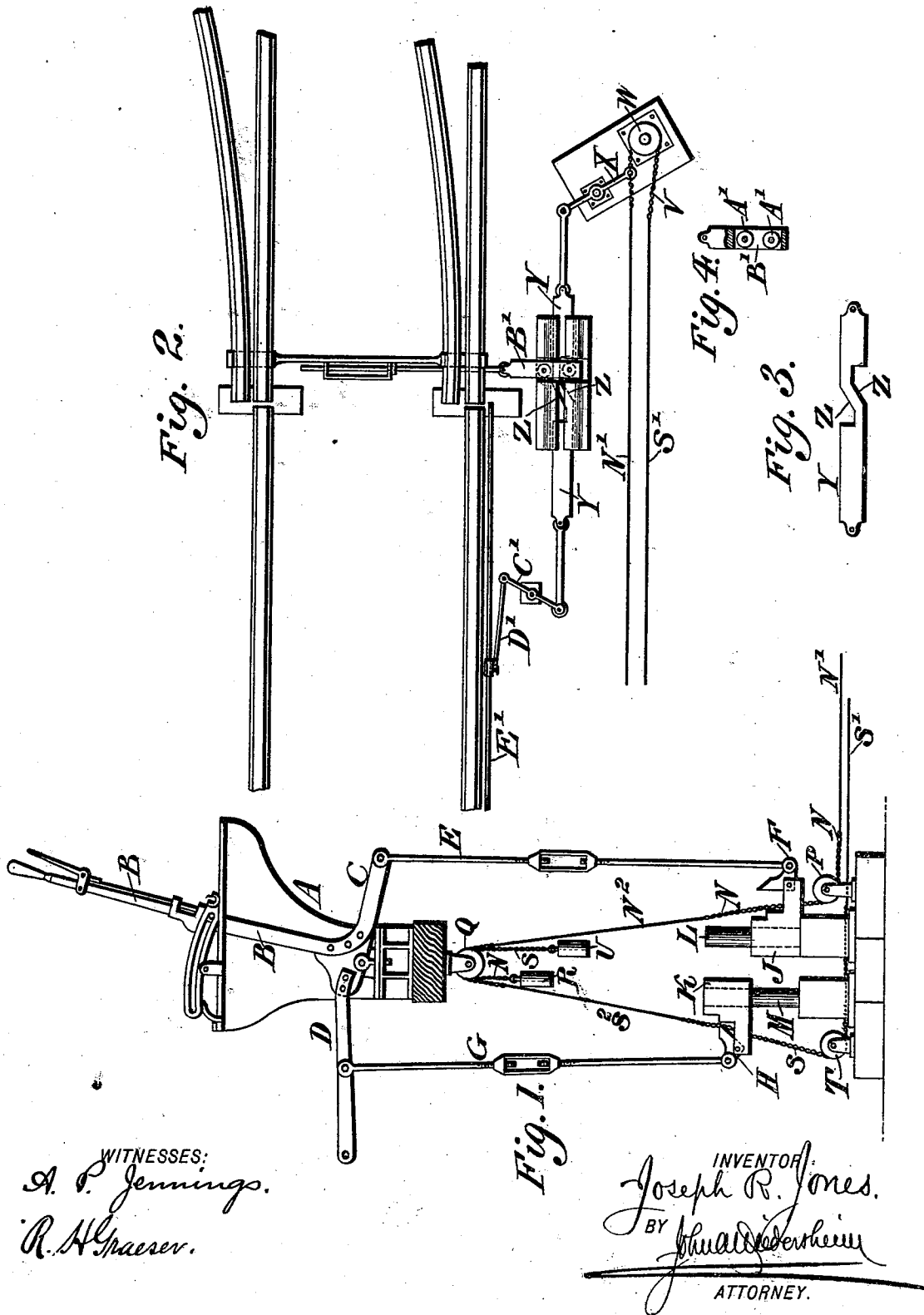


(No Model.)

J. R. JONES.
RAILWAY SWITCH.

No. 513,935.

Patented Jan. 30, 1894.



WITNESSES:
A. P. Jennings.
R. H. Maerer.

Fig. 1.

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RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 513,935, dated January 30, 1894.

Application filed July 26, 1893. Serial No. 481,513. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. JONES, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Railway-Switches, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in railway switches and consists of the combination and arrangement of parts as hereinafter set forth.

Figure 1 represents a side elevation of a portion of a railway switch embodying my invention. Fig. 2 represents a top or plan view of another portion of the same. Fig. 3 represents a top or plan view of the driver of the switch. Fig. 4 represents a bottom plan view of the slide of the switch, said slide being engaged by said driver.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates a stand, and B designates a lever mounted thereon, said lever having two limbs C and D.

E designates a rod which is pivotally connected with the limb C and a clutch F.

G designates a rod which is pivotally connected with the limb D and a clutch H. Each of said clutches consists of an angular or other shaped piece of metal or other suitable material, the clutch F being mounted on the traveler J, and the clutch H being mounted on the traveler K, said travelers consisting of blocks or pieces of metal or other material having serrated or angular sides for purposes hereinafter explained. The traveler J is freely fitted on the post L, and the traveler K is fitted on the post M, said posts being supported on the road bed or the base of the stand A.

N designates a chain which is guided on the roller P and passes between the clutch F and the traveler J, and has its upper end supported on and guided by a roller Q, and carrying a weight R.

S designates a chain which is guided on the roller T, and passes between the clutch H and traveler K, and has its upper end sup-

ported on and guided by the roller Q and carrying a weight U.

The chains N and S are connected by the rods N', S', with the chain V, which passes around the pulley W, and is attached to one end of the lever X, the other end whereof is connected with the driver Y, said pulley, lever and driver being properly mounted on the road bed.

The driver consists of a sliding bar having inclined faces Z on opposite sides, the same being adapted to engage with shoulders or rollers A' on the slide B', the latter being connected with the movable rails of a switch, it being evident that when the driver is operated, it imparts motion to the slide B' and consequently moves the switch rails. The driver is also connected with the lever C' which is attached by the link D' with the detector bar E' so that the operation of the driver will impart motion to said bar. It will be seen that when the lever B is operated, the relative clutch is moved so as to force the adjacent chain against the teeth or angles on the sides of the traveler, thus tightly holding said chain. The traveler now rises and carries with it the chain as clutched, thus imparting motion to the lever X, the driver Y and slide B', and consequently setting the switch in the open or closed position as desired. When the lever B is rotated in the reverse direction, the first named chain is released and the other chain is clutched, and thus the switch is operated in the opposite direction and thus closed or opened as desired. It will be seen that either of the chains passes freely between the respective clutch and traveler, and hangs freely on the pulley Q, whereby it is kept taut by the weight on the end thereof. Should the chain contract the same rides on said pulley Q and its weight is overcome. Should however the chain expand due to heat, it will ride on the pulley and have its slack taken up by the weight. A compensation is thus made for contraction or expansion of the chain or chains, due to heat or cold, whereby the chain or chains and connected parts are relieved of strain, and breakage of the same is prevented.

In describing the chains N and S as such, a portion of the same may consist of rods N², S², without producing different results. In lieu of the rods N', S', I may use pipes, cords, chains or other connections without producing different results from those stated. It will also be noticed that should there be any tampering with the switch, the connections N', S' will be disturbed, and this fact will be communicated to the operator in the tower or elsewhere, wherein the stand A is located, owing to the movement of the weights R and U, due to such disturbance.

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

1. Movable rails with a connecting slide, a driver for operating said slide, a lever connected with said driver, the pulley W, the chain V passing around said pulley and connected with said lever, the operating lever B having the limbs C and D, the rods E and G connected with said limbs and having clutches connected therewith, traveling blocks to which said clutches are pivoted, and chains or rods secured to each end of said chain V and passing between clutches and blocks, and having a weighted end passing over a depending pulley, said parts being combined substantially as described.

2. Movable rails with a connecting slide, a driver for operating said slide, a lever connected with said driver, a pulley with a chain

passing around the same, and connected with the said lever, separate chains connected with the ends of said pulley chain, an operating lever having two limbs, and separate clutch mechanism connected with each of said limbs for each of said separate chains, said parts being combined substantially as described.

3. A switch operating mechanism consisting of a driver with the lever X, the pulley W, the chain V around said pulley and connected with said lever, the operating lever B having the two limbs C and D, clutch mechanism operated by the movements of said limbs, and separate chains connected with the ends of said chain V, and adapted to be engaged by said clutch mechanism substantially as described, said parts being combined substantially as set forth.

4. Movable rails with a connecting slide, a driver engaging said slide, a lever connected with said driver, a pulley, the chain V passing around said pulley and connected with said lever, chains connected with the ends of said chains V and having weighted ends passing over a depending pulley, the operating lever B with the limbs C and D, and separate clutch mechanism for said weighted chains connected with said limbs, said parts being combined substantially as described.

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Witnesses:

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