

(No Model.)

J. P. HASTY.
RAILROAD SWITCH.

No. 537,807.

Patented Apr. 16, 1895.

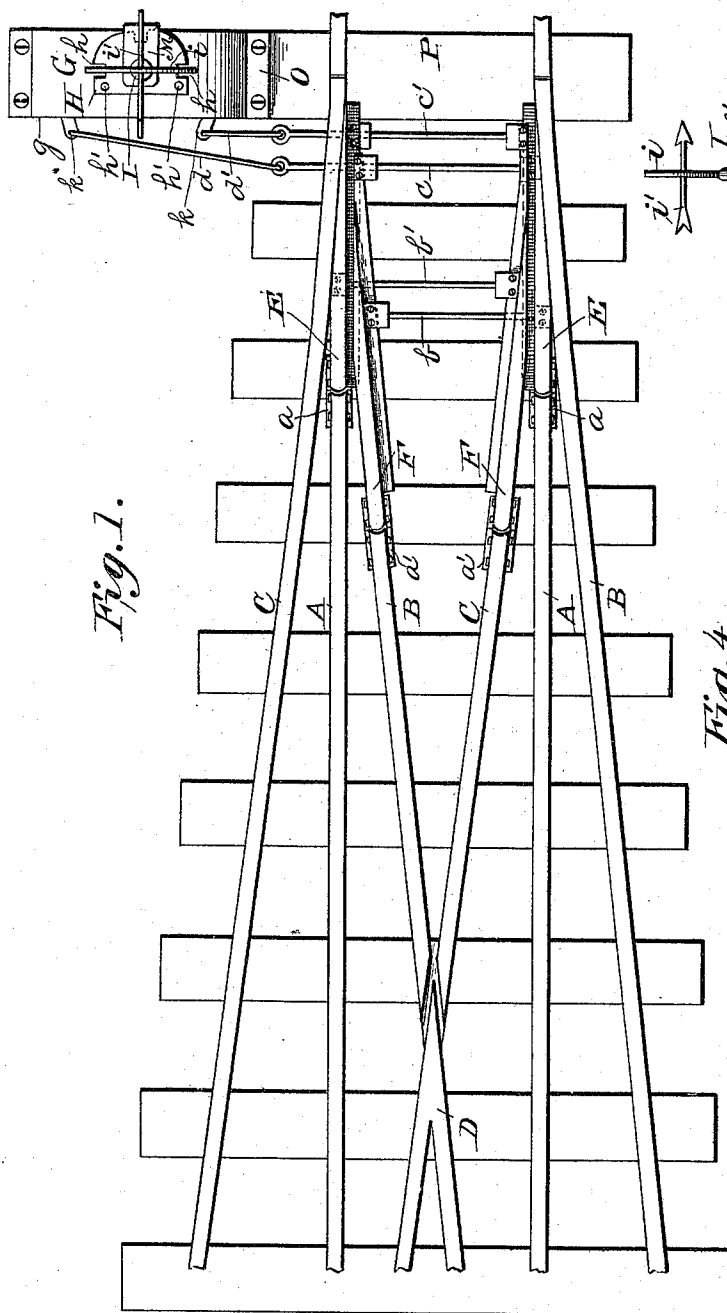


Fig. 1.

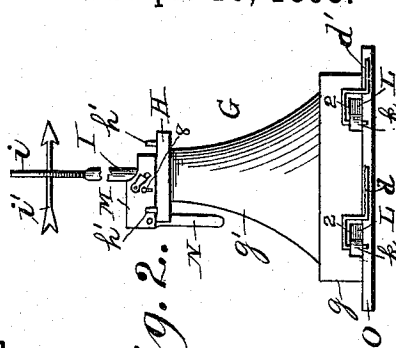


Fig. 2.

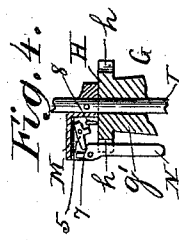


Fig. 4.

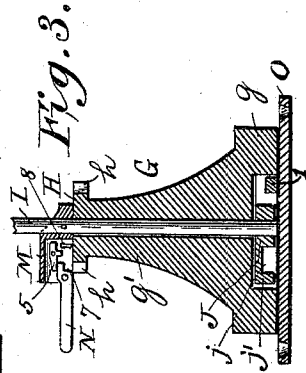


Fig. 3.

Witnesses:
Joseph H. Blackwood
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Fig. 5.



Fig. 6.

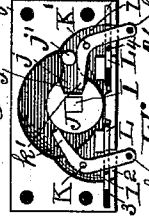


Fig. 7.



Inventor.

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UNITED STATES PATENT OFFICE.

JOSEPH P. HASTY, OF SUPERIOR, NEBRASKA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 537,807, dated April 16, 1895.

Application filed August 21, 1894. Serial No. 520,876. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. HASTY, a citizen of the United States, residing at Superior, in the county of Nuckolls and State of Nebraska, have invented a new and useful Railroad-Switch, of which the following is a specification.

My invention relates to an improvement in railroad switches; and it has for its object the production of a three-throw switch that can be effectively operated from a single switch-stand.

The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

In the drawings, Figure 1 is a plan view of my improved switch and switch-stand, showing the switch set for the main line. Fig. 2 is a rear elevation of the switch-stand, the switch lever being locked in a position to set the switch for the left-hand turnout. Fig. 3 is a vertical central section, partly in elevation, of the switch-stand, the switch-lever being shown unlocked. Fig. 4 is a broken sectional view illustrating the manner of locking the switch-lever. Figs. 5, 6, and 7 are bottom plan views of the switch-stand with the base-plate removed, the operating mechanism being shown in the positions to set the switch for the main line, the right-hand turnout, and the left-hand turnout, respectively.

Referring to the drawings, A represents the rails of the main line; B, the rails of the left-hand turnout; C, the rails of the right-hand turnout, and D a frog common to all the tracks.

E is a set of switch-points connected by angle-plates *a* to the ends of the main-line rails, and F a set of switch-points connected by angle-plates *a'* to the inner rails of the turnouts. *b* and *b'* are two tie-bars connecting the points of one set with those of the other near the heels, and *c* and *c'* are tie-bars connecting the toes of the switch-points, these connections being made in the usual manner. The tie-bars *c* and *c'* extend beyond the track and have attached to these extended ends throw-bars *d* and *d'*, respectively, for connection with the bell-cranks of the switch-stand.

By this manner of construction I am enabled

to set the switch for either of the three tracks from a single switch-stand.

G is the switch-stand, which has an oblong-shaped base *g*, a tapering cylindrical body *g'*, on top of which is secured a semi-circular cap H, which is provided with a series of notches *h* cut in its rounded edge, and two vertical studs *h'* near the straight edge, for a purpose hereinafter explained. The base of the stand is hollow and contains the operating mechanism. An operating-rod I passes centrally through the stand, its lower end projecting within the hollow base and its upper end considerably above the cap H, being provided with the usual disk-signal *i* and pointer *i'*, as seen in Figs. 1 and 2. On the lower end of the rod I, within the base *g*, is securely fastened what I term an operating-disk J. This disk is provided with a lateral arm *j*, which has at its outer end a downwardly-projecting stud *j'*. A recess *j²* is formed in the periphery of the disk in the same vertical plane as the arm *j*, for a purpose hereinafter explained.

K and K' represent two bell-cranks, which are pivotally secured on studs *l* at opposite ends of the base *g*, these studs being so located that the rear portion *k'* of each bell-crank will normally bear on the periphery of the disk, and the front portion *k* will project through an opening 2 formed in the front wall of base *g*, these openings being considerably wider than the portion *k* of the bell-cranks, thus permitting the necessary lateral movement of the latter. Guard-plates L, which are loosely fitted in grooves 3 formed in the front wall of base *g*, contain openings 4 of a size to just receive the front portions *k* of the bell-cranks and are adapted to slide with the latter in operation. These guard-plates serve to close openings 2 at all times, thus preventing the ingress of foreign substances to interfere with the movement of the bell-cranks.

To the operating-rod, just above the cap H, is secured a switch-lever M, which is adapted to turn the said rod to operate the switch-points. To the outer end of this lever is pivotally connected a handle N, which is adapted to normally rest in one of the notches *h* in cap H, as shown in Fig. 4. The switch lever con-

tains mechanism for automatically locking the handle in its normal position, said mechanism consisting of a pivoted gravity-dog 5, the forward end of which is adapted to engage with a shoulder 7 on the upper end of the handle N, as shown in Fig. 4, the dog being thrown out of engagement with said shoulder by an ordinary key inserted through a keyhole 8 engaging with a projection on the dog, thereby raising the dog from contact with the shoulder 7, as seen in Fig. 3 and permitting the handle to be raised into operative position.

A base-plate O is secured to the bottom of the switch-stand, serving to protect the mechanism, and is provided with slightly projecting ends for securing the stand to a tie or ground-plate P.

The switch-stand being secured in position the throw-bars d and d' are pivotally connected to the ends of the bell-cranks K and K', respectively.

The operation of my three-throw switch is as follows: When the handle is locked in the central notch h , the rear portion of each bell-crank is bearing on the periphery of the operating-disk and the front portions of said bell-cranks are thrown inward, as shown in Fig. 5, which operates to move the switch-points to set the switch for the main line, as clearly seen in Fig. 1. If it is desired to open either turnout—the left-hand one, for instance—the handle is unlocked, raised from the notch, and turned toward the right until it is above the notch in that portion of the cap, the stud h' preventing it from going too far, and the handle is dropped into the notch, when as before described it will be automatically locked. This movement of the handle, through the switch-lever and operating-rod, moves the disk J toward the right, when the stud j' comes into contact with the rear portion of the bell-crank K and guides said portion into and holds it in the recess j^2 , thereby moving the outer portion of said bell-crank toward the right, as shown in Fig. 7, which moves the switch-points connected to said bell-crank to open the left-hand turnout. The movement of the handle toward the left tends to place the respective parts of the mechanism in the positions shown in Fig. 6, which would move the switch-points to open the right-hand turnout.

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

1. In a three-throw switch, the combination, with a main line, two turnouts, one on either side of the main line, two sets of switch-points, one set being connected to the ends of the main-line rails and the other to the inner rails of the turnouts, and tie-bars connecting the switch-points of one set with those of the other, of a switch-stand provided with a hollow base, a disk located in said base, the disk

having a recess in its periphery, bell-cranks pivotally mounted within the hollow base, their forward ends projecting through openings therein and their rear ends adapted to bear on the periphery of the disk and enter the recess therein in operation, and means for turning the disk, whereby the bell-cranks are operated to open or close either track at will.

2. In a three-throw switch, the combination, with a main line, two turnouts, one on either side of the main line, two sets of switch-points, one set being connected to the ends of the main-line rails and the other to the inner rails of the turnouts, and tie-bars connecting the switch-points of one set with those of the other, of a switch-stand provided with a hollow base, a peripherally recessed disk located within the base, said disk having a lateral projection provided with a stud in line with the recess, bell-cranks pivotally mounted within the hollow base, their forward ends projecting through openings therein and their rear ends adapted to bear on the periphery of the disk and be guided into and held in the recess by said stud, an operating-rod on which the disk is secured, and a switch-lever secured to the operating-rod for turning the latter, whereby the bell-cranks are operated to open or close either track at will.

3. In a three-throw switch, the combination, with a main line, two turnouts, one on either side of the main line, two sets of switch-points, one set being connected to the ends of the main-line rails and the other to the inner rails of the turnouts, and tie-bars connecting the switch-points of one set with those of the other, of a switch-stand provided with a hollow base, a peripherally-recessed disk located within the base, said disk having a lateral projection provided with a stud in line with the recess, bell-cranks pivotally mounted in the hollow base, their forward ends projecting through openings therein and their rear ends adapted to bear on the periphery of the disk and be guided into and held in the recess by said stud, an operating-rod on which the disk is secured, a notched cap, a switch-lever secured to the operating-rod above the notched cap, a handle secured in the outer end of the switch-lever and adapted to turn the operating-rod, whereby the bell-cranks are operated to open or close either track at will, said handle resting normally in one of the notches in the cap, and means for automatically locking the handle when in normal position.

4. In a three-throw switch, the combination, with a main line, two turnouts, one on either side of the main line, two sets of switch-points, one set being connected to the ends of the main-line rails and the other to the inner rails of the turnouts, and tie-bars connecting the switch-points of one set with those of the other, of a switch-stand provided with bell-cranks, the ends of which project through openings in the base of the switch-stand and

are connected with the tie-bars, means for
operating the bell-cranks to open or close
either track at will, and guard-plates sliding
loosely with the bell-cranks in operation and
5 adapted to close the openings in the base of
the switch-stand.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in
presence of two witnesses.

JOSEPH P. HASTY.

Witnesses:

J. H. BOSSERMAN,
BOYD KIRK.