

W.C. Hicks,
Railroad Switch,

No. 6,429.

Patented May 8, 1849.

Fig: 1.

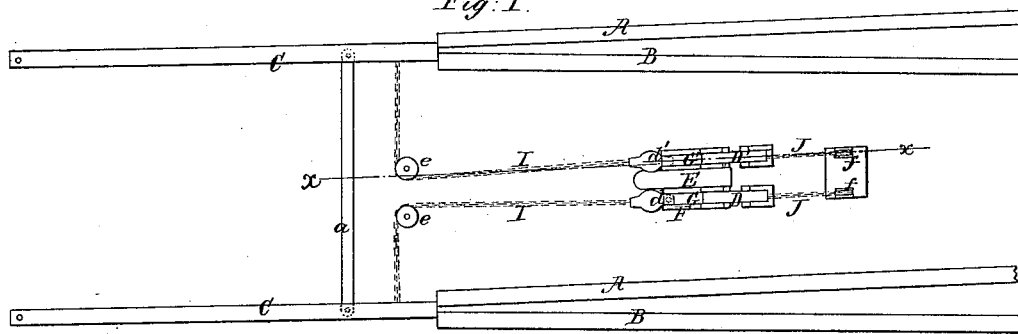


Fig: 2.

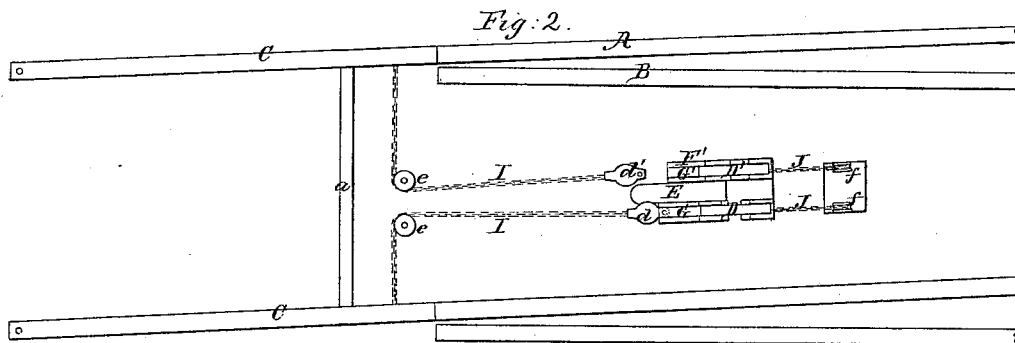


Fig: 3.

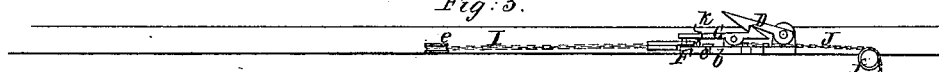


Fig: 4.

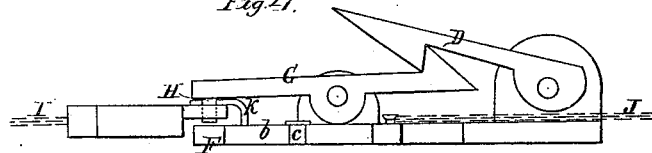
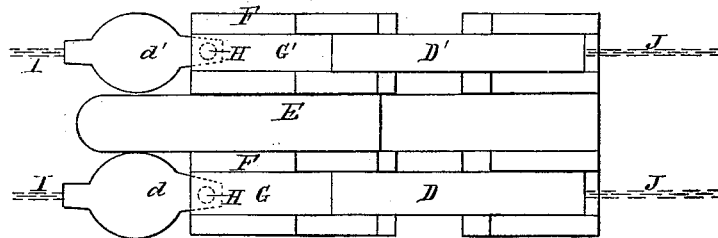


Fig: 5.



UNITED STATES PATENT OFFICE.

W. C. HICKS, OF RUTLAND, VERMONT.

OPERATING RAILWAY-SWITCHES.

Specification of Letters Patent No. 6,429, dated May 8, 1849.

To all whom it may concern:

Be it known that I, WILLIAM C. HICKS, of Rutland, in the county of Rutland and State of Vermont, have invented a new and
5 useful Improvement in Switches of Railroads for Preventing Accidents to Locomotives and Cars Passing Over the Same, which is described as follows, reference being
10 had to the annexed drawings of the same making part of this specification.

Figure 1, is a top or bird's eye view of a switch, and a section of a double track, with the improvement attached. Fig. 2, is a top
15 view of ditto, the switch in this case being in a different position from that represented in Fig. 1. Fig. 3, is a vertical longitudinal section of ditto at the line *x x* of Fig. 1. Fig. 4, is a vertical longitudinal section of the notched levers, &c., for altering the position
20 of the switch, on a larger scale than the figures described above. Fig. 5, is a top or bird's eye view of ditto.

Similar letters in the figures refer to corresponding parts.

25 The nature of this invention and improvement consists in arranging between the rails of the double track, a series of notched levers, sliding plates, cords, pulleys and weights, and other attachments, so combined in relation
30 to each other, and connected to the switch in such a manner, as to cause a projection or cam on the locomotive to operate the levers when the switch is out of position, and cause said switch to assume its proper
35 situation with the track, before the locomotive reaches the same, thus guarding against all danger of accident to the locomotive and cars from a displacement of the switch or neglect of the person attending the same.

40 To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A are the rails of the oblique track or turnout.

45 B are the rails of the main track.

C is the switch consisting of two rails, moving on pins at one extremity and connected together by a jointed cross bar *a*, and arranged in the usual relation to the tracks.

50 D are notched levers moving on fulcrums at one end, between suitable ears secured permanently between the main, and turnout tracks a proper distance from the switch, and notched on their under parts near the
55 opposite ends, and arranged parallel to and beside each other.

E is an oblong plate or plank, also secured permanently between the rails of the tracks immediately in front of the ears and midway between the forward or notched ends of the
60 levers D.

F are oblong plates, arranged on either side of the plate E, and flush with the edges of the same, and perforated with longitudinal slots (*b*), through which are inserted
65 upright pins or bolts (*c*) fixed firmly in the track and provided with circular heads immediately above the plates F, larger in diameter than the width of the slots, for guiding said plates in their movements.

70 G are other notched levers arranged immediately in front of the before mentioned levers D, and over the oblong sliding plates, turning on fulcrums at their centers between ears rising from the sides of said oblong
75 plates and having notches on their upper surfaces, at the ends farthest from the switch, situated below the notched ends of the levers D, and in such relation thereto as to engage or connect with the same in the manner represented in Figs. 3 and 4. H are pins or
80 bolts projecting from the under surfaces of the levers G at their forward ends and entering a corresponding sized opening formed in curved or other formed blocks or keys (*d*)
85 similar to that used for connecting the drawing lines to canal boats. I are chains attached to these blocks or keys, and passing around friction rollers or pulleys (*e*) turning on upright permanent pins, between the
90 rails of the switch, and attached to the inner sides of the same.

J are other chains attached to the ends of the oblong sliding plates F, farthest from the switch and passing under the notched
95 levers D, and over friction rollers or pulleys (*f*) turning on horizontal permanent pins, inserted in the sides of a pit or excavation lined on its sides in any suitable manner, and having weights *g* suspended at their ends.
100 K are bent wires inserted in the upper surfaces of the sliding plates F bent forward over the blocks or keys (*d*), for preventing said blocks or keys being raised during the depression of the notched ends of the levers
105 G.

Operation: The apparatus being set by drawing the oblong sliding plates F forward, toward the switch, and inserting the
110 pins or bolts at the ends of the notched levers G, into the openings in the blocks or keys (*d*) as represented in Figs. 1 and 5, the

vibrating ends of the rails of the switch will be brought to the position represented in Fig. 1, in relation to the two tracks, and held in that situation by the equilibrium
5 existing between the weights *g*, and the upper surfaces of the notched levers *D*, will be caused to assume an angle of about twenty degrees with a horizontal plane. If, while the several parts are thus arranged
10 and connected, the locomotive were to approach the switch on the oblique or turn out track, the projection or cam on the lower part of the same would strike and pass over the inclined surface of the right hand lever
15 *D'*, and force the notched end of the same downward, carrying with it the notched end of the lever *G'*; to be raised and the pin *H* projecting from the same to be withdrawn from the opening in the block or key *d'* and
20 detached from the same. The weight suspended to the chain connected to the left hand sliding plate *F'*, will then draw said plate back and with it the switch, to which it is attached by the chain, block or key, and
25 notched levers, to the position represented in Fig. 2, so as to cause the rails of said switch to form a continuation of the oblique or turn out track, before the locomotive

reaches the same. The apparatus is again set to the position represented in Figs. 1 and 30 5, by the attendant, and in case of a locomotive approaching the switch on the left hand or main track, the cam or projection on the lower part of the same will be caused to operate on the left hand notched lever *D*, 35 (the situation of the cam or projection on the locomotive being caused to pass over said notched lever, from the difference of position of the tracks) and the ends of the rails of the switch will be brought next the 40 rails of the main track.

What I claim as my invention and desire to secure by Letters Patent is—

The arrangement and combination of the notched levers *D*, *G*, slotted sliding plates 45 *F*, blocks or keys (*d*) attached to the levers *G* by the pins *H*, and chains *I*, *J*, pulleys (*e*, *f*,) and weights *g*, operated by a cam or projection on the under part of the locomotive, in the manner and for the purpose 50 herein set forth.

W. C. HICKS.

Witnesses:

JOHN G. NEWELL,
GORDON NEWELL.