E. HUGRON.

RAILROAD-SWITCH.

No. 192,868. Patented July 10, 1877.

Fig. 1.

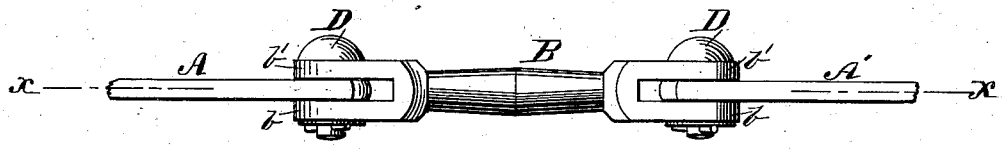


Fig. 2.

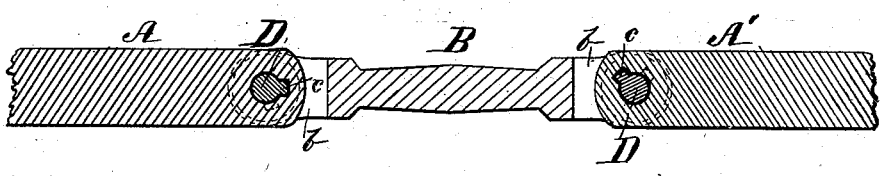


Fig. 3.

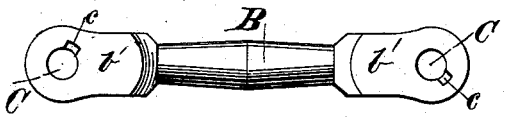
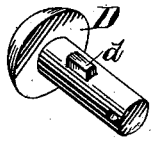


Fig. 4.



Witnesses.

L. Van Kisworck

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UNITED STATES PATENT OFFICE.

EDMUND HUGRON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **192,868**, dated July 10, 1877; application filed March 16, 1877.

To all whom it may concern:

Be it known that I, EDMUND HUGRON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in railroad-switches; and consists in a new and improved coupling device, the pivot-bolts of which are so constructed that they cannot be removed from the switch-rod joints, or become detached therefrom, thereby obviating all danger of the switch becoming displaced, and effectually preventing any surreptitious displacement or alteration of the position of the switch through removal of the bolts of the switch-rod joints, which can be accomplished with the bolts of the switch-rod couplings heretofore in use, even when the switch-lever itself is locked. With my improved coupling it is impossible to move the switch-rod while the lever is locked, as the bolts which connect them cannot be removed.

In the accompanying drawings, Figure 1 is an elevation of my improved switch-rod coupling. Fig. 2 is a sectional view taken on the line *x x*, Fig. 1. Fig. 3 is a detached view of the coupling, and Fig. 4 a perspective view of one of the coupling-bolts.

Referring to the parts by letters, A A′ represent the switch-rod and rod connected with the lever of a railroad-switch. B is the coupling which connects these rods. The ends *b* of the coupling B are bifurcated, so as to receive the ends of the rods, as clearly shown in Fig. 1 of the drawings. C represents bolt-holes in the ends of the coupling B, and corresponding bolt-holes are formed in the ends of the rods A A′. The holes C in the upper plate *b′* of the forked or bifurcated ends are formed with slots *c*, located to one side or at an angle from a line drawn through the center of the hole C, as clearly shown by Fig. 3 of the drawings. In cutting these slots, however, they are so arranged as to be at different angles to each other, as shown in that figure. The holes in the lower forks *b* do not have this slot, but the holes in the ends of the rods A A′ have similar slots, as shown by Fig. 2 of the drawings. D represents one of the pivot-bolts. It is formed with a feather, *d*, said feather being so located on the shaft of the bolt that its length will equal the thickness of the rods A A′, and be slightly less than the width of the space between the forks *b b′*.

To place the bolts in position, the slot in the rod must be brought into the same line as the slot *c* in the coupling. This will be such a position as the parts can never again assume in the operation of the switch. The bolt can now be inserted, its feather *d* passing through the slot *c* and into the corresponding slot in the switch-rod. As a result, the switch-rod holds the bolt, and when it is moved upon the pivot, the bolt or pivot moves with it, while the coupling B is moved without affecting the bolt.

From this it will be seen that the position of the feather of the bolt depends upon the position of the switch-rod, and as the switch-rod can never be brought into the position where the two slots coincide it is obvious that the bolt cannot be removed while the parts of the switch are in operative position, and as the bolt itself cannot turn there is no danger of it ever working loose and dropping out.

Having described my invention, I claim—

1. The bar B constructed substantially as described—that is to say, with bifurcated ends *b b′*, in which are formed bolt-holes C, said holes in the ends *b′* each having a feather notch or slot *c* at its side, and these so arranged and formed as to be at a different angle the one from the other, substantially as shown and described.

2. A coupling-bar, B, each end of which is bifurcated and provided with bolt-holes C, and which holes in the ends *b′* each have a feather notch or slot, *c*, formed at one side, in combination with the feather-bolts D, switch-rod A, and lever-rod A′ of a railroad-switch, all being arranged to operate in the manner and for the purposes substantially as set forth.

In testimony, that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

EDMUND HUGRON.

Witnesses:

JOHN CARLSON,

P. R. MARLING.