

No. 664,651.

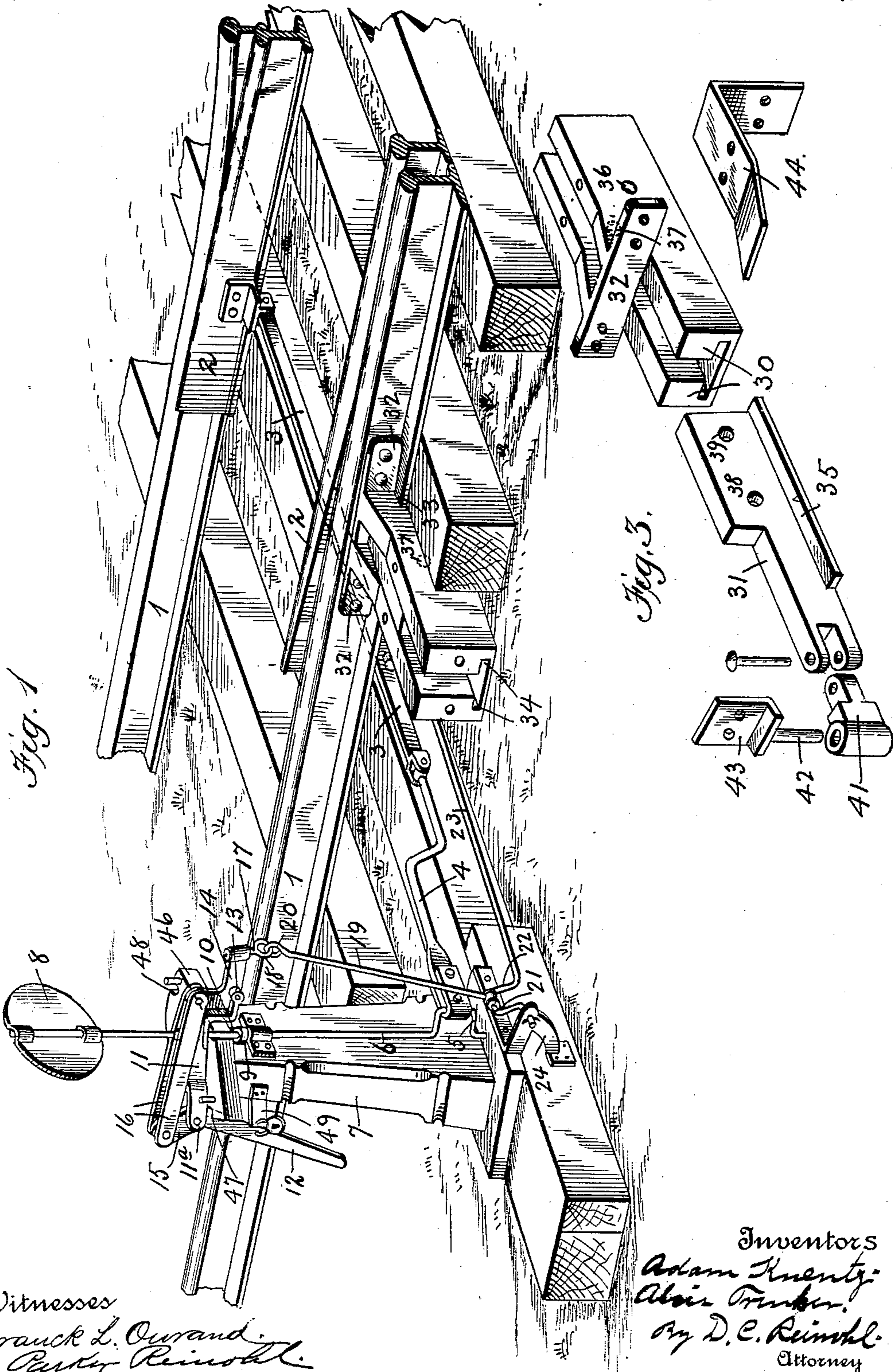
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A. KUENTZ & A. TRENKER.
SAFETY RAILROAD SWITCH.

(Application filed Oct. 1, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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UNITED STATES PATENT OFFICE.

ADAM KUENTZ AND ALOIS TRENKER, OF COLBY, WISCONSIN.

SAFETY RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 664,651, dated December 25, 1900.

Application filed October 1, 1900. Serial No. 31,655. (No model.)

To all whom it may concern:

Be it known that we, ADAM KUENTZ and ALOIS TRENKER, citizens of the United States, residing at Colby, in the county of Clark and State of Wisconsin, have invented certain new and useful Improvements in Safety Railroad-Switches; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to railways, has especial reference to switches, has for its object a safety attachment whereby the switch-points are locked in either position to secure them against accidental displacement by passing trains, and consists in certain improvements in construction which will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification, Figure 1 is a perspective illustrating the application of our invention; Fig. 2, a transverse section through the rails; Fig. 3, a detail perspective of the locking mechanism in position for assembling; Fig. 4, a like view of one rail, the jaws of the locking device, and the locking-pin; and Fig. 5, a detail of the locking-pin and the arm of the operating-lever.

Reference being had to the drawings and the reference characters thereon, 1 indicates the rails of the track, 2 the switch-points, and 3 the bar which connects the switch-points at their reduced ends and passes under the rails 1 in the usual manner and is connected to a rod 4, which at its opposite end is connected to the arm 5 of a rod 6, supported on a post 7 and bearing a semaphore 8. The lever 6 is provided with a lug 9, which engages a recess 10 in the post and secures the rod against longitudinal movement and is secured to a bar 11, having a jaw 11^a at one end, to which the lever 12 is pivotally connected and by which the switch-points are moved into either open or closed position by turning the rod 6 on its axis, and thereby moving the switch-points. The opposite end of the bar 11 is provided with a jaw 13, in which a bell-crank lever 14 is pivotally connected, and the crank 15 of the lever 12 is connected to the upper arm of the bell-crank by parallel bars 16 16,

which are pivotally connected at both their ends, and to the lower arm of the bell-crank is connected an eyebolt 17, to the eye 18 of which a rod 19 is connected by an eye 20 to admit of the rod being moved laterally at its upper end to accommodate itself to the several positions of the bar 11 in throwing or moving the switch-points 2. The lower end of the rod 19 is connected to the wrist-pin 21 of a crank 22 on a rod 23, supported at its outer end in a bracket 24 and at its inner end in a bracket 25, secured to the side of one of the jaws of the locking device, and on the rod 23, which is squared at 26, is adjustably secured an arm 27, which, in conjunction with the rod, forms a lever, in the outer end of which arm of the lever is an eyebolt 28, to the eye of which a pin 29 is pivotally secured by a link 28^a, engaging the eye at the inner end of the bolt to accommodate the several positions the arm 27 assumes in entering and withdrawing from the jaws 30 and the bolt 31 of the lock.

The jaws 30 are secured to the rail 1 by a bracket 32, engaging the web of the rail and by a horizontal slot 33, engaging the flange of the rail, and in said jaws are formed grooves or ways 34, which are engaged by the head 35 on the bolt 31 to secure the bolt against vertical movement. One of the jaws 30 is provided with a hole 36, passing through the jaw, and the other with a hole 37, which may not pass through the jaw, and the bolt 31 is provided with two holes 38 39 to receive the pin 29 in either position of the bolt. The bolt 31 is made in two sections, pivotally connected at 40, to admit of lateral movement of the outer section, due to expansion and contraction of the switch-point to which the outer section 41 is connected by a pin 42, secured to the switch-point by a flange 43, the section 41 being free to swing laterally on pin 40 as the bolt 31 is moved in and out between the jaws 30.

The jaws and the bolt are protected against snow, ice, and any other obstruction entering between them by a cover 44, secured to the upper edges of the jaws by screws 45.

On top of the post 7 is a plate 46, having notches 47 48, with which the lever 12 engages to secure the switch-points 2 in either posi-

tion, and on the post are brackets 49, to which the lever 12 may be secured by a suitable pad-lock.

The safety device shown is so connected to the switch-operating mechanism that the two operate together, thereby making it impossible to open or close the switch without first unlocking the safety device and subsequently locking the same, and thus avoiding the possibility of the switch being accidentally displaced when set by a passing train.

Having thus fully described our invention, what we claim is—

1. A pair of switch-points, and a lever for operating the same; in combination with a locking device for securing the switch-points, one part of which is secured to one of the rails of the track, and the other part secured to one of the switch-points, and means connected to the switch-operating lever for securing the two parts together.

2. A pair of switch-points, and a lever for operating the same; in combination with a locking device, one part of which is secured to one of the rails of the track, and the other part secured to one of the switch-points to move therewith, and a transverse pin engaging the members of the locking device and connected to the switch-operating lever.

3. A pair of switch-points, and a locking device, consisting of a pair of jaws secured to one of the rails of the track, a bolt connected to one of the points and moving therewith; in combination with a locking-pin engaging the jaws and the bolt, and a lever for operating the switch-points and the locking-pin.

4. A locking device for a switch consisting of a fixed part secured to one of the rails of the track, and a movable sectional member secured to one of the switch-points, and provided with means for allowing lateral movement of said member, and means for securing the parts together.

5. A locking device for a switch, consisting of a fixed part secured to one of the rails of the track, and a longitudinally-movable sectional member pivotally secured to one switch-point, and a pivotal connection between the sections of the movable member, and means for securing the parts in locked position.

6. A locking device for a switch, consisting of a fixed part secured to one of the rails of the track and having a way therein, a longitudinally-movable member connected to a switch-point and engaging said way, and a pin for locking the movable member in the fixed part.

7. A locking device for a switch, consisting of a fixed part secured to one of the rails of the track and having a way therein, a longitudinally-movable member connected to a switch-point and engaging said way, a pin for locking the movable member, and a lever connected to the switch and to the pin.

8. A locking device for a switch, consisting of a fixed part secured to one of the rails of the track, and a longitudinally-movable member connected directly to one of the switch-points, a laterally-movable pin, a lever-arm to which said pin is pivotally connected, and means for operating said pin.

9. A switch, and a lever for operating said switch by swinging the lever in the arc of a circle; in combination with a locking device, one member of which is secured to one of the rails of the track and the other member connected to and moves with the switch, and a pin which is connected to and is operated by the switch-lever.

10. A switch, and a lever for operating said switch, in combination with a locking device consisting of a jaw secured to one of the rails of the track, a bolt connected directly to one of the switch-points, a pin engaging said jaw and bolt and supported by a crank, a bell-crank lever connected to the switch-lever, and a vertical swinging rod connecting the two cranks.

11. A locking device for switch-points consisting of a pair of jaws permanently secured to one of the rails of the track, a bolt made in two parts, pivotally secured together and engaging said jaws and pivotally connected directly to one of the switch-points; in combination with a switch-lever connected to said points, and a pin operated by said lever and engaging said jaws and bolt.

12. A locking device for switch-points consisting of a pair of jaws having laterally-extending flanges and permanently secured to the outside of one of the rails of the track, a bolt engaging said jaws, provided with means for allowing lateral adjustment and secured directly to one of the switch-points, a switch-operating lever, and a pin having a pivotal connection therein and connected to the switch-lever.

In testimony whereof we affix our signatures in presence of two witnesses.

ADAM KUENTZ.
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Witnesses:

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