May 9, 1933. F. C. ZACARIAS 1,908,097

RAILROAD SWITCH LOCK

Filed June 20, 1932

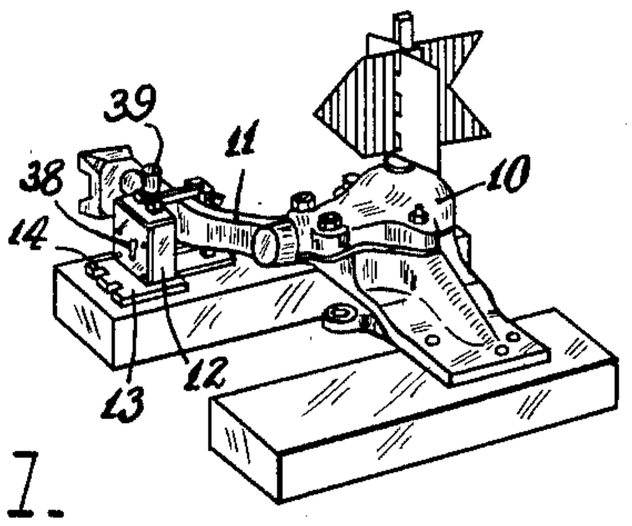

Fig. 1.

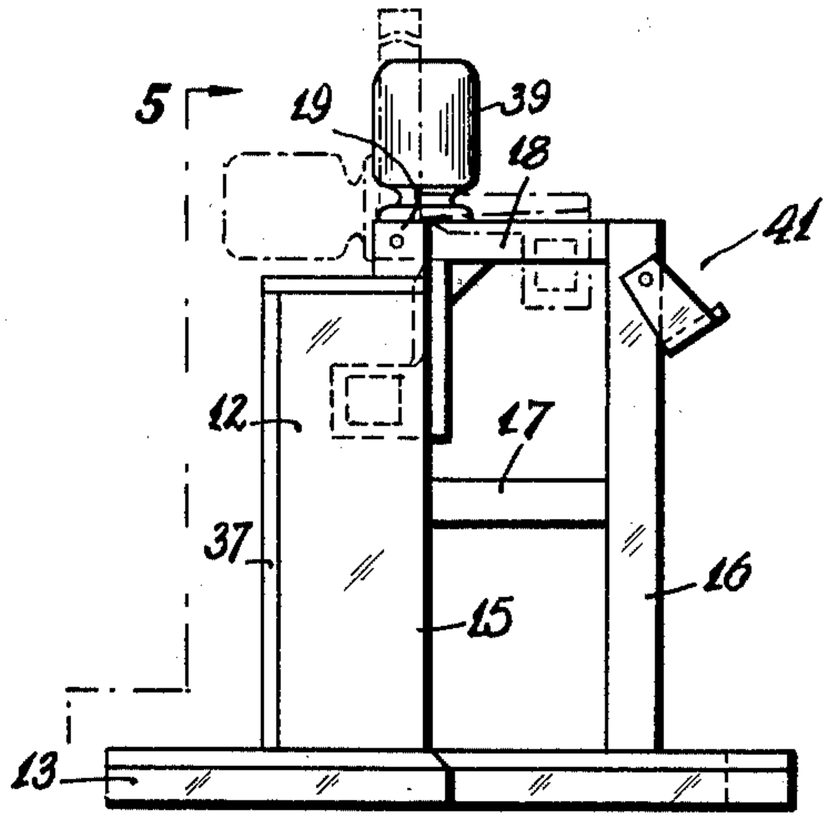

Fig. 2.

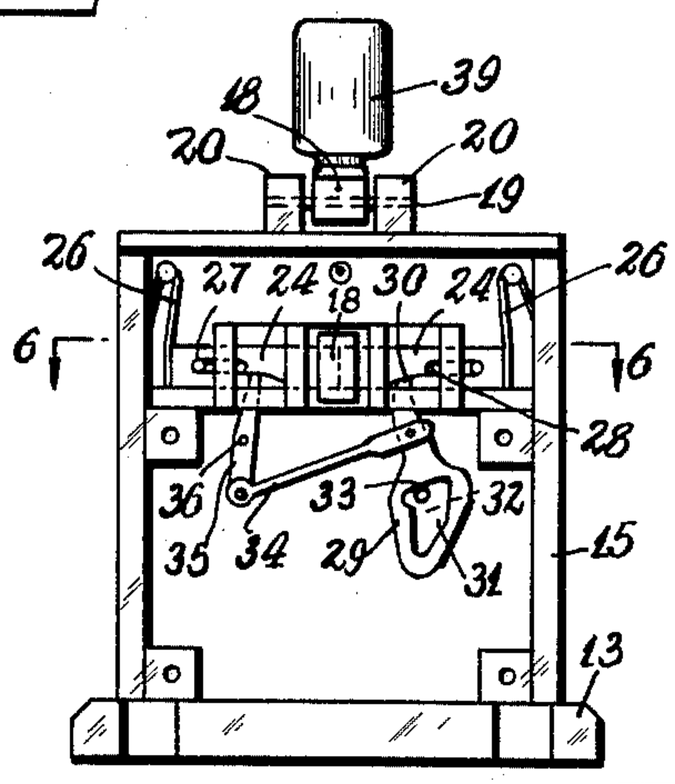

Fig. 6.

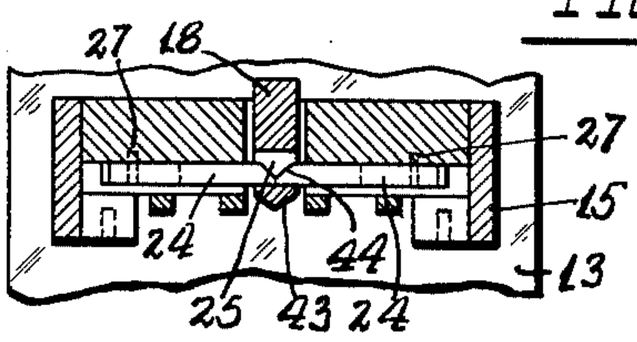

Fig. 5.

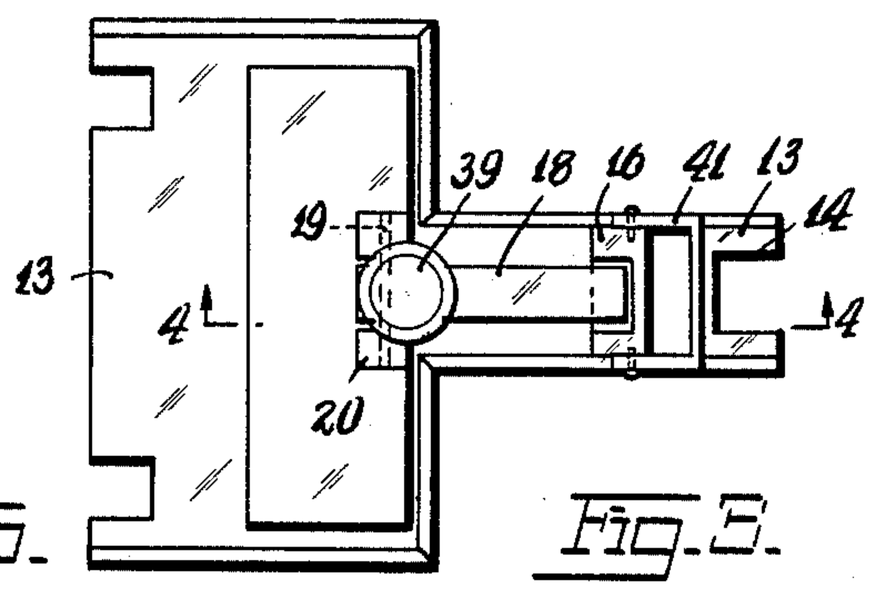

Fig. 3.

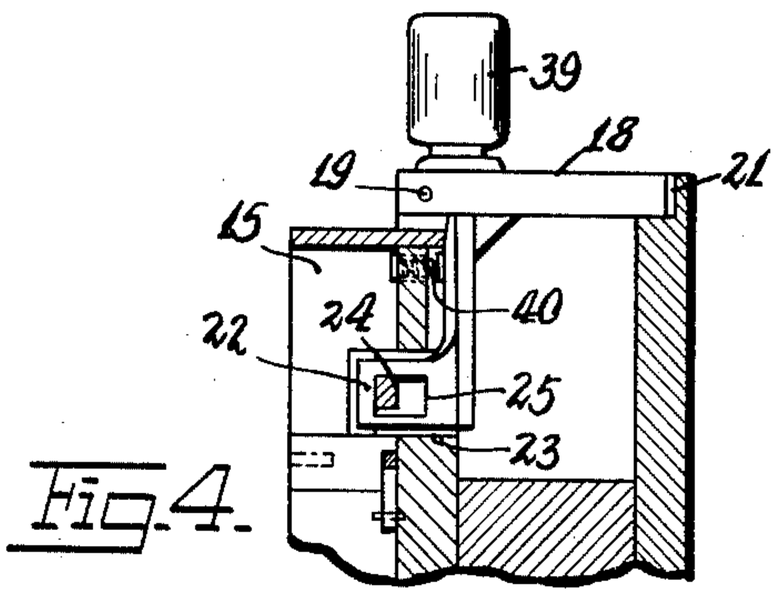

Fig. 4.

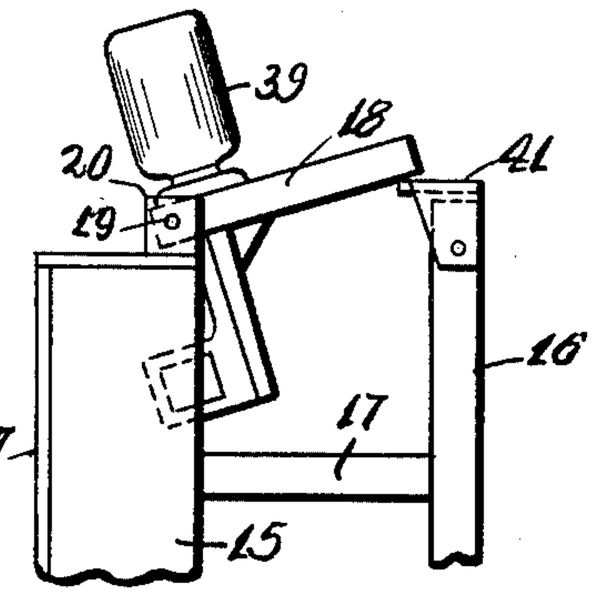

Fig. 7.

INVENTOR
Francisco C. Zacarias
BY Zoltan A. Hlachy
ATTORNEY

Patented May 9, 1933 1,908,097

UNITED STATES PATENT OFFICE

FRANCISCO C ZACARIAS, OF WAYNOKA, OKLAHOMA

RAILROAD SWITCH LOCK

Application filed June 20, 1932. Serial No. 618,183.

This invention relates to new and useful improvements in a railroad switch lock.

The invention has for an object the construction of an article as mentioned which is characterized by the provision of a pivoted keeper having a pair of arms at right angles to each other and working in conjunction with a vertical post in a manner so that the operating lever of a switch may be locked against further motion.

As a further object of this invention it is proposed to arrange a base plate upon the device to facilitate its attachment on the ties of a railroad bedway.

As another object of this invention it is proposed to arrange bolts for engaging said keeper to hold it in its latching position, and a key mechanism to open said bolts.

Furthermore, an arrangement is proposed whereby the keeper is limited in its motion so as to be prevented from assuming the locked position.

A still further object of the invention is the provision of resilient means for slightly moving the keeper when the opportunity presents itself from the latched position so that when the lock is normally opened the keeper is released.

A still further object of the invention is the construction of a device of the class described which is of simple durable construction, dependable in use and efficient in operation, and which can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a perspective view of a railroad switch equipped with a lock according to this invention.

Fig. 2 is a side elevational view of the lock per se.

Fig. 3 is a plan view of Fig. 2.

Fig. 4 is a fragmentary sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is an elevational view looking in the direction of the line 5—5 of Fig. 2 but shown with the lock cover removed.

Fig. 6 is a fragmentary horizontal sectional view taken on the line 6—6 of Fig. 5.

Fig. 7 is a fragmentary view similar to a portion in Fig. 2 but illustrating the device in a different position.

In Fig. 1 a railroad switch 10 has been illustrated. The details of the switch will not be gone into since they form no part of this invention. Suffice it to say that the switch is provided with a handle 11 which may be pivoted to cause its operation. A switch lock 12 is shown holding the handle 11 so that the switch handle cannot be moved. The invention resides in this switch lock.

The switch lock 12 consists of a base plate 13 adapted for attachment upon some stationary object in the vicinity of the switch handle 11 and is shown provided with cut-outs 14 for receiving the customary spikes used to hold objects down upon the ties of a railroad track. Such spikes will suffice to hold the lock in place. A body 15 projects from the base plate and is spaced from a post 16 also mounted upon the base plate. A stop rod 17 extends between the post 16 and the body 15. A keeper 18 is pivotally mounted upon the body 15.

The keeper 18 is composed of a pair of rods at right angles to each other and at the junction of these rods a pin 19 passes and through lugs 20 upon the top of the body 15 to accomplish the pivotal mounting of the keeper. One arm of the keeper is longer and adapted to engage within a recess 21 formed in the top of the post 16 and limiting motion of the keeper to the operative position. The shorter arm of the keeper does not extend to the post as clearly indicated by the dot and dash lines in Fig. 2. In the operative position of the keeper the shorter arm rests flat against the body 15 and is provided with a projecting end 22 engaging through an opening 23 in the body 15 so as to extend within the latter element. A pair of bolts 24 are slidably mounted within the body 15 and are adapted

to engage through an opening 25 in the projections 22 of the keeper for holding the keeper in the latched position.

The bolts 24 are arranged on opposite sides of the opening 23 so that when the keeper engages through the opening the bolts may extend simultaneously into the opening 25. These bolts are urged into their operative positions by spring 26 acting between the ends of the bolts of the body 15. Pegs 27 project from the body 15 and engage in elongated openings 28 formed in the bolts 24 so as to limit sliding of the bolts. A mechanism is provided for simultaneously moving the bolts to an open position and comprises a link 29 having a finger 30 engaging into a recessed portion of one of the bolts 24 and a link 29 is formed with an opening 31 into which a key, indicated by the dot and dash lines 32, may engage to move the member and cause the motion of the bolt. A peg 33 projects from the body 15 and serves as a guide for the key. A link 34 connects with the finger 30 and with a finger 35 pivotally mounted intermediately at 36 and engaging a recess in the other bolt 24 so that both of the bolts move in unison. A cover 37 is attached upon the rear of the body 15 so as to normally enclose the operative parts. The cover 37 is provided with a keyhole 38 through which the key may be inserted for moving the bolts.

A handle 39 is attached upon the keeper 18 so that the keeper may be manually moved when desired. This handle also serves as a counterweight so as to maintain the keeper in the open or the closed position, whichever it may be. For this reason the handle 39 is slightly inwards from the pivot of the keeper. A spring 40 is arranged upon the side of the body 15 in the path of motion of the short arm of the keeper so as to tend to slightly urge the keeper into an open position in which position the bolts 24 cannot engage it. A pivoted stop 41 is mounted upon the top of the post 16 and normally is in a position, as illustrated in Fig. 2, which position is resting against the side of the post. This pivoted stop may be moved upwards so as to extend over the top of the post, as illustrated in Fig. 7, in which position it prevents the keeper from closing sufficiently to become locked in position. The projecting portion 22 of the keeper is formed of cam shape, indicated by reference numeral 43, and the adjacent contacting ends of the bolts 24 are also cam shape, indicated by reference numeral 44 so that the bolts are automatically pried open by the keeper as it moves to its latched position.

The operation of the device may be traced by assuming it in the condition shown in Fig. 1. To move the switch it is necessary that a key be inserted through the keyhole 38 and the member 29 moved to cause separation of the bolts 24. Immediately, the spring 40 slightly moves the keeper 18 so that it is now unlatched. Then the lever 11 may be manually moved upwards to operate the switch and in so doing the keeper 18 will be pivoted to the position indicated by the dot and dash lines in Fig. 2. The counterweight 39 maintains the keeper in this position.

When the handle 11 is next moved back to its original position to move the switch back to its position, it automatically strikes against the short arm of the keeper and causes the keeper to pivot back into its locked position in which the bolts 24 engage through the openings 25 and hold it as set. Should it be desirable to move the lever back to the first position without operation of the lock, then the pivoted stop 41 should be moved across the top of the post 16 so as to obstruct complete closing of the keeper limiting it to a position as shown in Fig. 7.

While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A railroad switch lock, comprising a base plate for attachment to a stationary member, a body on said base plate, a post on said base plate and spaced from said body and having a stop arm extending over to the body, a keeper consisting of a pair of arms at right angles to each other and pivotally supported at the junction of said body and adapted to pivot into a position in which one arm extends over to the top of post and the other alongside said body, bolts within said body engageable with said keeper, a key mechanism for moving said bolts, and a spring mounted on said body and normally tending to slightly move the keeper into a position in which the bolts cannot engage it.

2. A railroad switch lock, comprising a base plate for attachment to a stationary member, a body on said base plate, a post on said base plate and spaced from said body and having a stop arm extending over to the body, a keeper consisting of a pair of arms at right angles to each other and pivotally supported at the junction of said body and adapted to pivot into a position in which one arm extends over to the top of the post and the other alongside said body, bolts within said body engageable with said keeper, a key mechanism for moving said bolts, and a spring mounted on said body and normally tending to slightly move the keeper into a position in which the bolts cannot engage it, a pivoted stop being mounted upon the top of said post for limiting motion of the keeper into a position which is unlocked.

3. A railroad switch lock, comprising a base plate for attachment to a stationary member, a body on said base plate, a post on said base plate and spaced from said body and having a stop arm extending over to the body, a keeper consisting of a pair of arms at right angles to each other and pivotally supported at the junction of said body and adapted to pivot into a position in which one arm extends over to the top of the post and the other alongside said body, bolts within said body engageable with said keeper, a key mechanism for moving said bolts, and a spring mounted on said body and normally tending to slightly move the keeper into a position in which the bolts cannot engage it, said keeper having one arm longer and the other arm short, and the shorter arm being the one adapted to engage against the side of said body and having a projection extending through an opening in the body for engagement by said bolts.

4. A railroad switch lock, comprising a base plate for attachment to a stationary member, a body on said base plate, a post on said base plate and spaced from said body and having a stop arm extending over to the body, a keeper consisting of a pair of arms at right angles to each other and pivotally supported at the junction of said body and adapted to pivot into a position in which one arm extends over to the top of the post and the other alongside said body, within said body engageable with said keeper, a key mechanism for moving said bolts, and a spring mounted on said body and normally tending to slightly move the keeper into a position in which the bolts cannot engage it, said keeper having one arm longer and the other arm short, and the shorter arm being the one adapted to engage against the side of said body and having a projection extending through an opening in the body for engagement by said bolts, and a weight being mounted upon said keeper for holding it in the open or closed positions.

5. A railroad switch lock, comprising a base plate for attachment to a stationary member, a body on said base plate, a post on said base plate and spaced from said body and having a stop arm extending over to the body, a keeper consisting of a pair of arms at right angles to each other and pivotally supported at the junction of said body and adapted to pivot into a position in which one arm extends over to the top of the post and the other alongside said body, bolts within said body engageable with said keeper, a key operated mechanism for moving said bolts, and a spring mounted on said body and normally tending to slightly move the keeper into a position in which the bolts cannot engage it, said bolts being slidably mounted within the body and normally urged into the operative positions.

6. A railroad switch lock, comprising a base plate for attachment to a stationary member, a body on said base plate, a post on said base plate and spaced from said body and having a stop arm extending over to the body, a keeper consisting of a pair of arms at right angles to each other and pivotally supported at the junction of said body and adapted to pivot into a position in which one arm extends over to the top of the post and the other alongside said body, bolts within said body engageable with said keeper, a key operated mechanism for moving said bolts, and a spring mounted on said body and normally tending to slightly move the keeper into a position in which the bolts cannot engage it, said bolts being slidably mounted within the body and normally urged into the operative positions, the adjacent ends of said bolts being cam shape and the keeper having a cam shape portion to pry the bolts open as it assumes the closed position.

7. A railroad switch lock, comprising a base plate for attachment to a stationary member, a body on said base plate, a post on said base plate and spaced from said body and having a stop arm extending over to the body, a keeper consisting of a pair of arms at right angles to each other and pivotally supported at the junction of said body and adapted to pivot into a position in which one arm extends over to the top of the post and the other alongside said body, bolts within said body engageable with said keeper, a key operated mechanism for moving said bolts, and a spring mounted on said body and normally tending to slightly move the keeper into a position in which the bolts cannot engage it, said key mechanism including linkage and fingers adapted to simultaneously move said bolts.

In testimony whereof I have affixed my signature.

FRANCISCO C ZACARIAS.