F. C. BROWN.

RAILROAD SWITCH LOCK.

APPLICATION FILED JUNE 5, 1909.

950,471. Patented Mar. 1, 1910.

Fig. 1

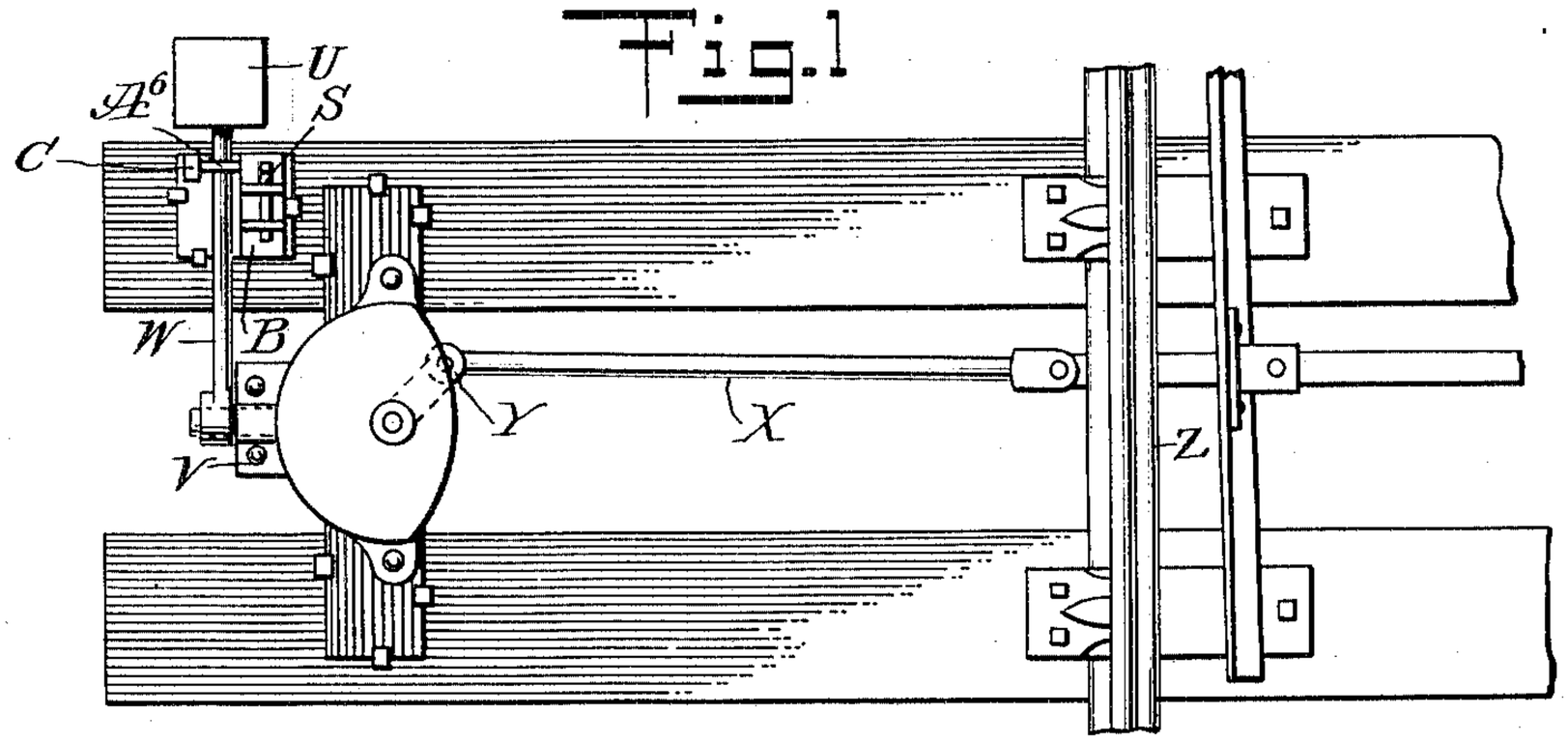


Fig. 2

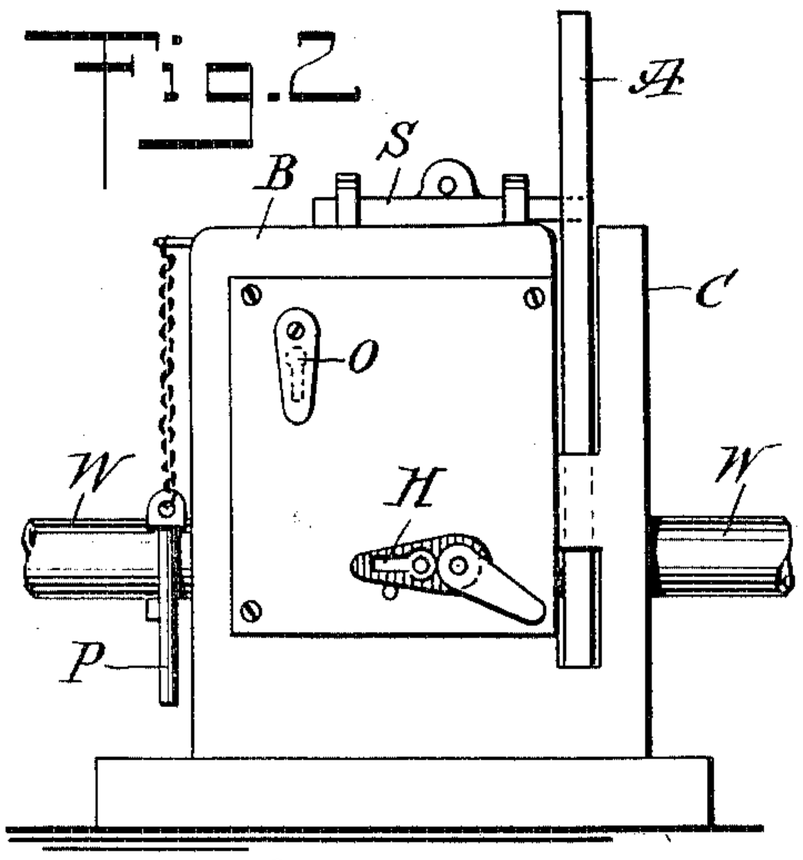


Fig. 3

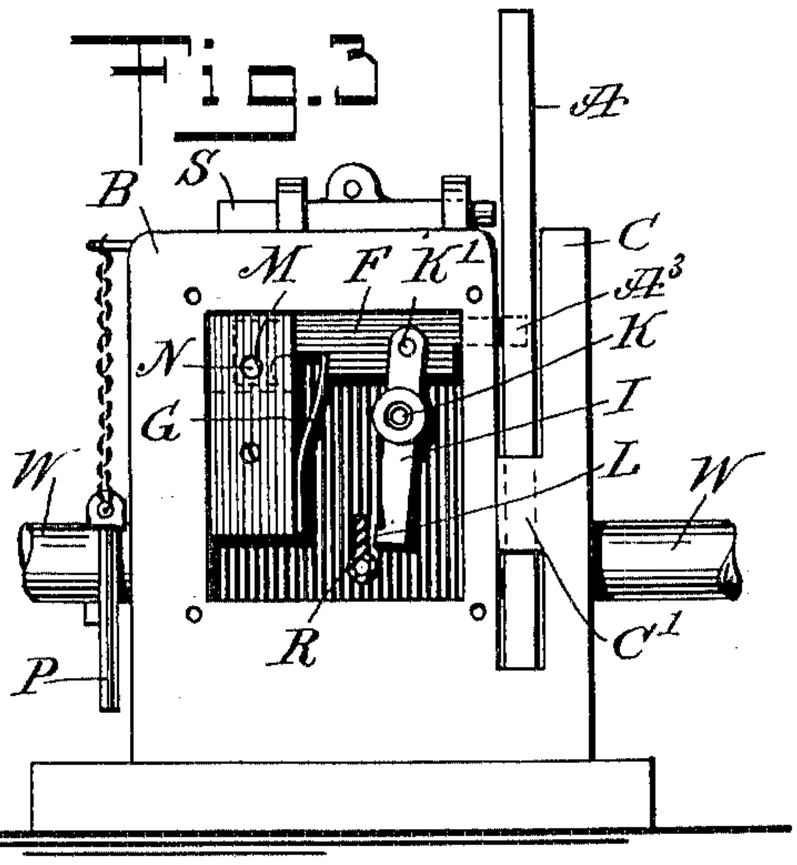


Fig. 4

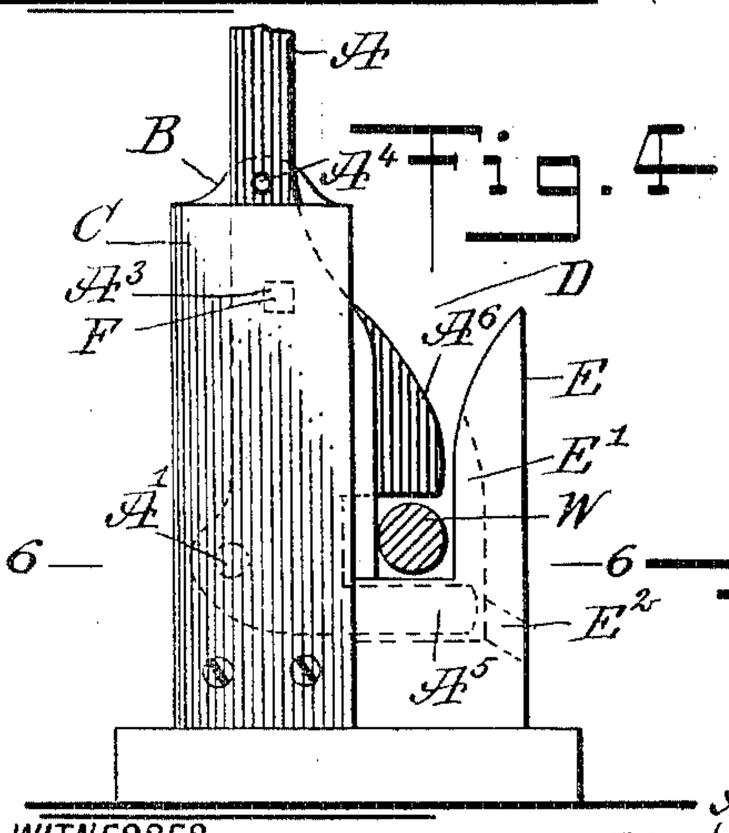


Fig. 5

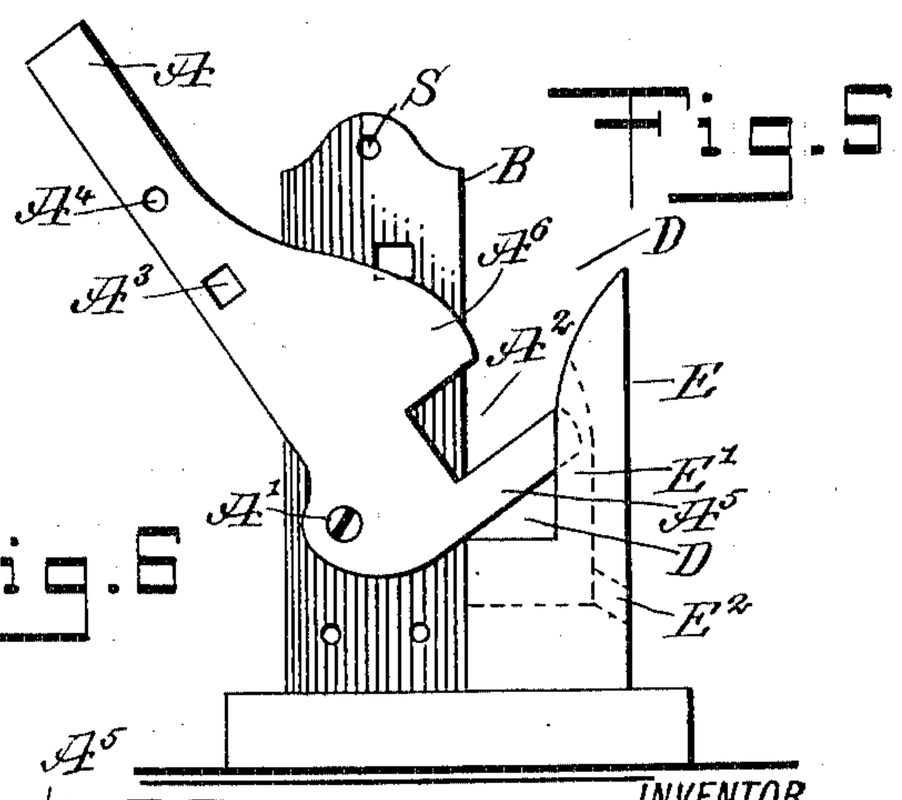
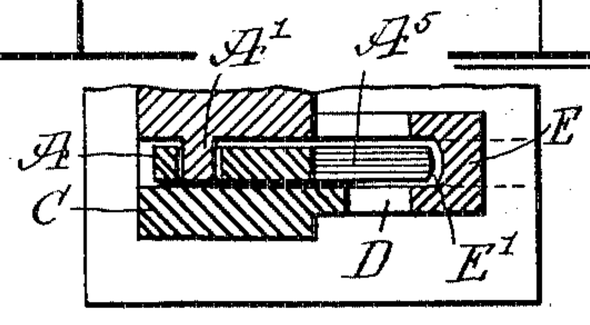


Fig. 6



WITNESSES

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RAILROAD-SWITCH LOCK.

950,471. Specification of Letters Patent. Patented Mar. 1, 1910.

Application filed June 5, 1909. Serial No. 500,454.

To all whom it may concern:

Be it known that I, FRANK C. BROWN, a citizen of the United States, and a resident of Shawnee, in the county of Perry and State of Ohio, have invented a certain new and useful Railroad-Switch Lock, of which the following is a full, clear, and exact description.

The principal objects which the present invention has in view are: to provide a lock for the switch lever, which requires a key to release the said lever; to provide a lock which may be arranged to operate automatically and manually in alternation; and to provide a construction for the lock which may be placed in exposed positions without becoming clogged or rendered inoperative by ice or snow.

The mechanism embodying this invention is shown in the accompanying drawings in which—

Figure 1 is a plan view of a portion of a road-bed and the lock in operative relation thereto; Fig. 2 is a side elevation of the lock as constructed in accord with this invention; Fig. 3 is a view similar to Fig. 2, the side plate being removed to show the interior of the lock; Fig. 4 is an end elevation of the lock in locked condition; Fig. 5 is an end elevation of the lock in unlocked condition, the guide plate being removed to expose the locking lever; and Fig. 6 is a detail view in horizontal section on the line 6—6 in Fig. 4, of the locking lever, guide plates and bolt.

In the drawings (Fig. 1), *z* indicates the switch rail of the road-bed, and which is connected to a crank arm Y by a connecting rod X. The crank arm is operated by a lever W, which is pivotally mounted in a bearing plate V, to throw from the one side to the other side of the said plate. The weight U, at the end, compels the lever to assume a reclined position and to fully open or close the switch rails from or upon the main line rails. It is to secure the lever in its closed or normal position that the lock is provided.

The lock structure embodies a lever A, which is pivoted at A′ and is provided with a recess A^2 and the bolt seats A^3 and A^4. The lever A swings between a casing B and a guide plate C, and the lower extension A^5 moves in a groove E′ formed in a post E. The extension A^5 receives the lever W and is depressed thereby to the position shown in Fig. 4 of the drawings; the said extension receiving the lever W when in the position shown in Fig. 5 of the drawings. When the lever A assumes the position shown in Fig. 4, the shoulder A^6 of the lever is thrown forward across a channel D formed by the post E and above the lever W, in such manner as to prevent the lever being raised unless the lever is thrown back.

The lever A is normally and automatically locked when moved to the position above described, as shown in Fig. 4. The lock is effected by a bolt F being forced by a spring G outward from the case B and through the perforation A^3. The plate C prevents the bolt being forced back, thus making it difficult to tamper with the bolt F. The bolt F cannot be removed from engagement with the lever A, except by the insertion of a proper key at a port H, and when the key is revolved (to the right, as shown in the drawings; see Figs. 2 and 3) it strikes upon the lower portion of a rocking arm I and forces said lower portion toward the lever A, which causes the upper portion of said arm to be drawn back from said lever, carrying the bolt F back until withdrawn from the seat A^3. The lever A is then released so that it may be drawn back to the position shown in Fig. 5 to release the lever W.

The lever A is so formed and mounted, that when thrown to the opened position shown in Fig. 5, its weight maintains it in such position. When the temporary use of the switch has passed, the lever W is thrown over onto the extension A^5, causing it to fall to a horizontal position, carrying the lever A forward until the bolt F again falls into the seat A^3 and the lever W and the switch it operates are locked. By thus arranging and constructing the mechanism that it may be operated only by the use of a key, there is secured freedom from the lock being tampered with, and protection against the accidental or intentional opening of the switch by unauthorized persons.

The rocking arm I is pivoted at K to the casing B, and to the bolt F at K′. At the extreme of the lower end of the arm I there is provided a shoulder L against which the key strikes and is arrested. The bolt F is provided at the rear end with a hook M, which registers with a perforation N in the

casing B. The perforation N is formed in line with a port O, provided to receive a key P that is attached by a chain to the casing B. The purpose of the hook M and key P is to maintain the bolt F in the unlocked position during a succession of operations of the switch, and when it might prove inconvenient to unlock the bolt for each operation. To avoid this, the key P is inserted in the port O and through the perforation N to interpose in front of the hook M. The master key R may now be drawn from the port H, leaving the bolt F retracted, and the lever A free to move. The lock has now become a manually-operated device. While in this position of the bolt F, the lever A is held in locked position by manually moving a slide bolt S to extend it into the seat A^4. When now it is desired to have the lock again serve as an automatic device, this is done by withdrawing the key P, and the bolt F being released, it is forced by the spring G to engage the seat A^3 when the same is presented. To avoid any accumulation of water to form ice in the groove E′, I have provided a passage E^2. This passage also serves to clean the space under the extension A^5 should it become clogged. The backward throw of the lever A is limited by a rest C′. This rest further aids in strengthening the construction.

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

1. A railroad switch lock, comprising a box-like casing having key ports suitably disposed, a key-released automatic latch mounted within said casing and adapted to be withdrawn from the lock by a key inserted through one of said ports, an interposed member adapted to be inserted in the path of said latch to prevent it assuming a locked position, and a detent member mounted in guides and adapted to be interposed in the path of the switch-operating lever to hold the same and arranged to be normally engaged by the said latch to be held thereby in position.

2. A railroad switch lock, comprising a box-like casing having two key ports suitably disposed, a key-released automatic latch mounted within said casing and adapted to be withdrawn from the lock by a key inserted through one of said ports, a member adapted to be inserted in the other of said ports to interpose in the path of said latch to prevent it assuming a locked position, and a detent member mounted in guides and adapted to be interposed in the path of the switch operating lever to hold the same and arranged to be normally engaged by the said latch to be held thereby in position.

3. A railroad switch lock, comprising a box-like casing having key ports suitably disposed, a spring-actuated latch bolt mounted within and extended through the wall of said casing and adapted to be moved by a suitable key when introduced through one of said ports, a member adapted to be inserted in a second of said ports to interpose in the path of said bolt to prevent it assuming the locking position, and a detent member mounted in guides and adapted to be interposed in the path of the switch-operating lever to hold the same and arranged to be engaged by the said bolt to be held thereby in position.

4. A railroad switch lock comprising a box like casing having keyports suitably disposed, a key-released automatic latch mounted within said casing and adapted to be withdrawn from the lock by a key inserted through one of said ports, a member adapted to be inserted in the path of said latch to prevent it assuming a locked position, a detent member mounted in guides and adapted to be interposed in the path of the switch-operating lever to hold the same, said detent member adapted to be normally engaged by the said latch to be held thereby in position, and a manually operated bolt mounted upon said casing and adapted to engage said interposed member in locked position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK CROWE BROWN.

Witnesses:
JOHN BULLOCH,
P. J. FLEMING.