No. 868,305. PATENTED OCT. 15, 1907.

J. W. TORPEY & G. W. LANDER.

RAILROAD SWITCH LOCK.

APPLICATION FILED JULY 8, 1907.

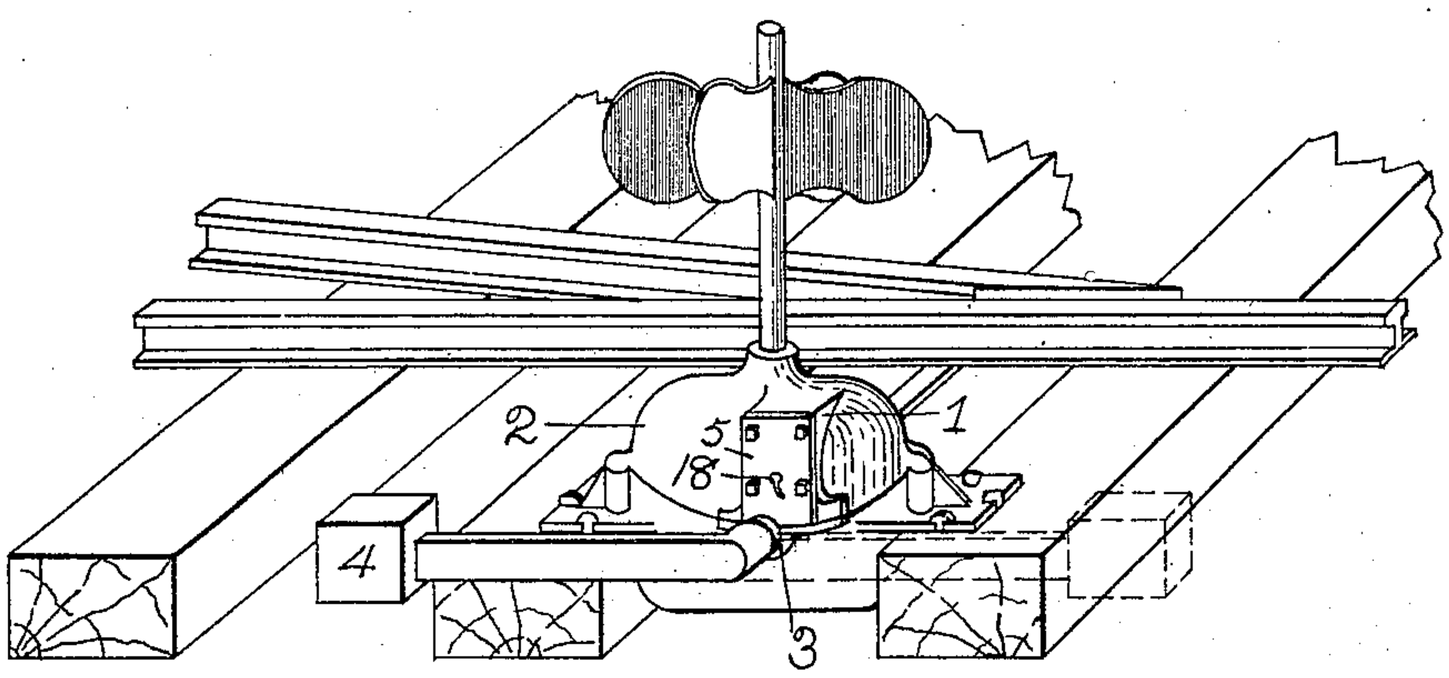

Fig. 1.

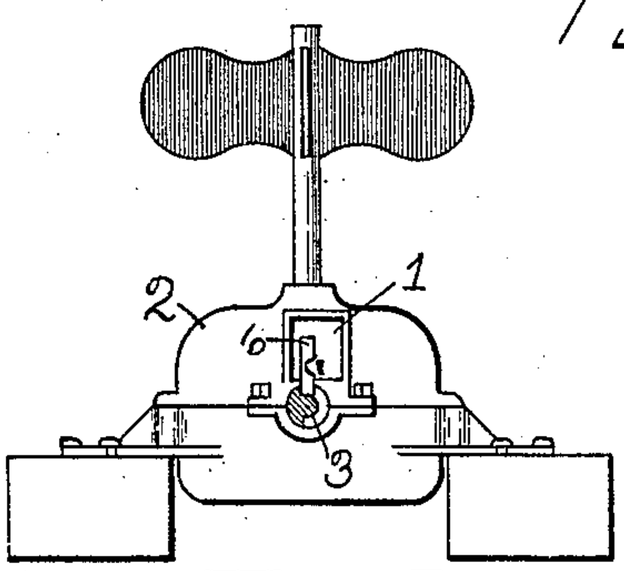

Fig. 2.

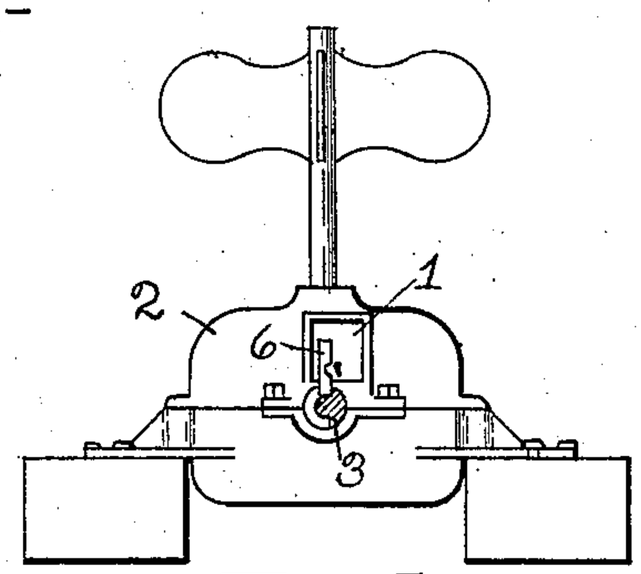

Fig. 3.

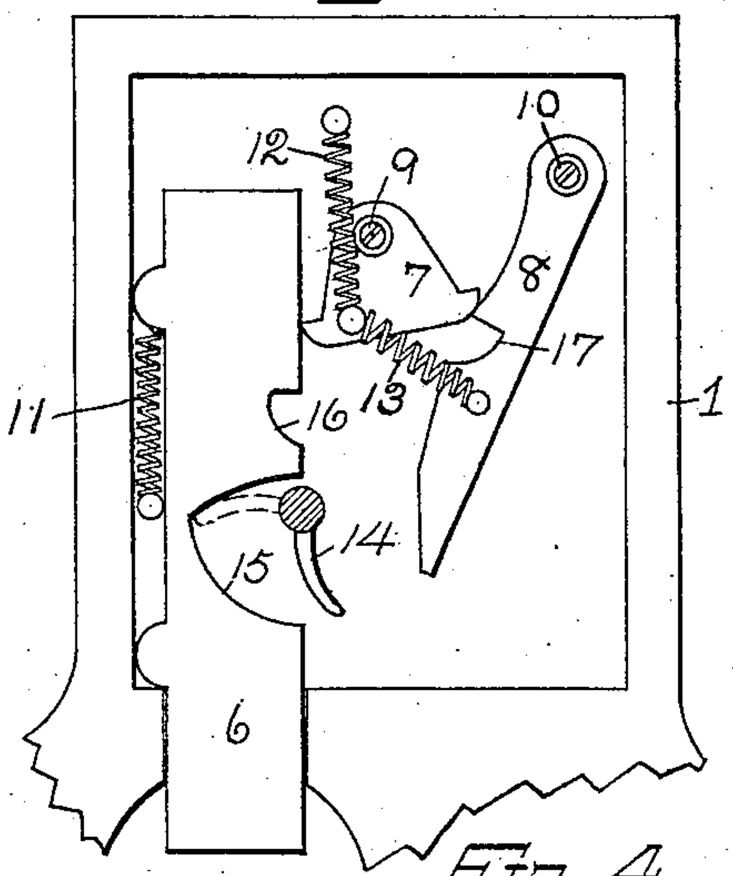

Fig. 4.

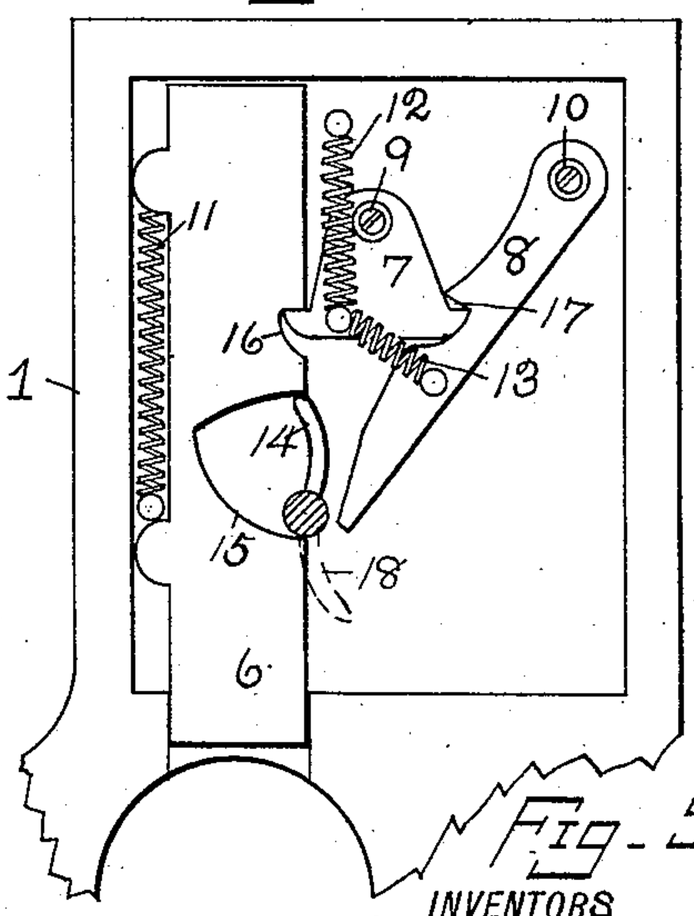

Fig. 5.

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RAILROAD-SWITCH LOCK.

No. 868,305. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed July 8, 1907. Serial No. 382,652.

To all whom it may concern:

Be it known that we, JOSEPH WALTER TORPEY and GEORGE WILEY LANDER, citizens of the United States, residing at Louisville, county of Jefferson, and State of Kentucky, have invented a new and useful Railroad-Switch Lock, of which the following is a specification.

This invention relates to means for locking railroad switches; and the objects of our improvement are, to provide a railroad switch lock which cannot be removed or detached from the body of the switch-stand, to provide a railroad switch lock from which the key cannot be removed except when the switch is fully locked, thus preventing switches from being left unlocked and liable to be shifted by persons without authority to do so, and to facilitate placing the responsibility for irregularity in the position of switches. These objects we accomplish by means of the mechanism shown in the accompanying drawing, in which:

Figure 1 is a perspective view; Fig. 2, a front elevation of the switch-stand when the switch is locked in the position shown by the solid lines in Fig. 1 showing the shaft in section and the cover of the box removed; Fig. 3 is a front elevation of the switch-stand as locked in the position shown by the dotted lines in Fig. 1 showing the shaft in section and the cover of the box removed; Fig. 4 is a front elevation of the lock with the cover removed, showing the bolt in the locking position; Fig. 5 a front elevation of the same in the unlocked position.

Similar reference numerals refer to similar parts throughout the several views of the drawing.

The lock box 1 is preferably cast integral with the switch-stand casing 2. The shaft 3, carrying weight 4, is so cut out in that portion lying beneath the bolt, as to provide keepers, as shown in Figs. 2 and 3. In position to engage these keepers, a bolt 6 is slidably mounted in the lock box 1, being normally shot out by the action of a coil spring 11. Bolt 6 is provided with a notch 15 suitably shaped and located to allow key 14 to engage it and raise bolt 6 from the locked position shown in Fig. 4, to the unlocked position shown in Fig. 5. Bolt 6 is provided also with a notch 16, suitably shaped and located to engage a tumbler 7. Tumbler 7 is pivoted upon a pin 9 and is continuously acted upon by a tension spring 12 which normally draws tumbler 7 into engagement with notch 16. A tumbler 8 is pivoted upon a pin 10, and is acted upon by a tension spring 13 attached thereto and to tumbler 7. Tumbler 8 is provided with a notch 17 suitably shaped and located to engage tumbler 7. The cover 5 shown in Fig. 1 is suitably attached to the lock-box 1. The dotted lines of Fig. 5 show the position of the key hole 18 when the cover 5 is in place.

It will be understood that a railroad switch-stand equipped with our lock is in a fully locked position except when in the actual operation of switching. Thus when a switchman or other railroad operative approaches a switch-stand equipped with our lock with a view of throwing or changing the position of the switch, he finds the switch-stand with the lever locked either in the position shown by the solid lines of Fig. 1, or in the position shown by the dotted lines of the same.

Assuming that it is desired to change the blocks or colored signals of the switch-stand from the position shown in Fig. 2, showing red, to the position shown in Fig. 3, showing white. The operation is as follows:—The key 14 is inserted in key hole 18. The solid lines 14, as shown in Fig. 4 correspond to the shape and location of key hole 18 at the moment when the key is first inserted in the lock. The key 14 is turned to the left moving freely within notch 15 until it reaches the position shown by the dotted lines in Fig. 4. By continuing the movement of the key 14 in the same direction, the bolt 6 is raised to the position shown in Fig. 5, whereupon the tumbler 7, actuated by spring 12 engages notch 16 in bolt 6. At the same time, tumbler 8, actuated by springs 12 and 13, engages tumbler 7 in a notch 17 of tumbler 8, the various parts of the lock then assuming the unlocked position shown in Fig. 5. Now the shaft is free to revolve, bolt 6 being entirely clear of the keepers in the shaft. It will be observed that in this position the key cannot be withdrawn, because, if the movement of the key 14 be reversed, it will be free to move only within the limits of notch 15, as bolt 6 is supported at its lower end by the shaft and cannot be moved until the shaft is revolved sufficiently to allow the bolt to engage the keepers in the shaft. If the movement of the key be continued in the right-hand direction, it trips tumbler 8, but when the key 14 is free of tumbler 8, the tumbler resumes the position shown in Fig. 5, and key 14 is prevented from registering with the key hole by reason of interference with the lower edge of notch 15 in bolt 6. There is no method by which key 14 may be withdrawn from key hole 18 when the mechanism of the lock is in the unlocked position shown in Fig. 5. All switch keys issued to the operatives of the railroad may be numbered and registered. Thus, should a switchman or other operative carelessly leave a switch unlocked, he would be forced to leave his num-

bered key in the switch-stand and could not evade the responsibility for his action.

Having thus described our invention so that any one skilled in the art pertaining thereto may make and use it, we claim—

A lock for switch-stands comprising a stationary box, a bolt, the shaft of the switch-stand provided with keepers, said bolt normally shot into engagement with one of said keepers, a separate key adapted to be inserted in the lock for withdrawing said bolt from said keeper, a tumbler for holding said bolt in the withdrawn position, and a second tumbler for holding the first-named tumbler in position and having its free end lying in the path of the key so that it may be tripped thereby and adapted to fall in behind said key to prevent its return motion.

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