

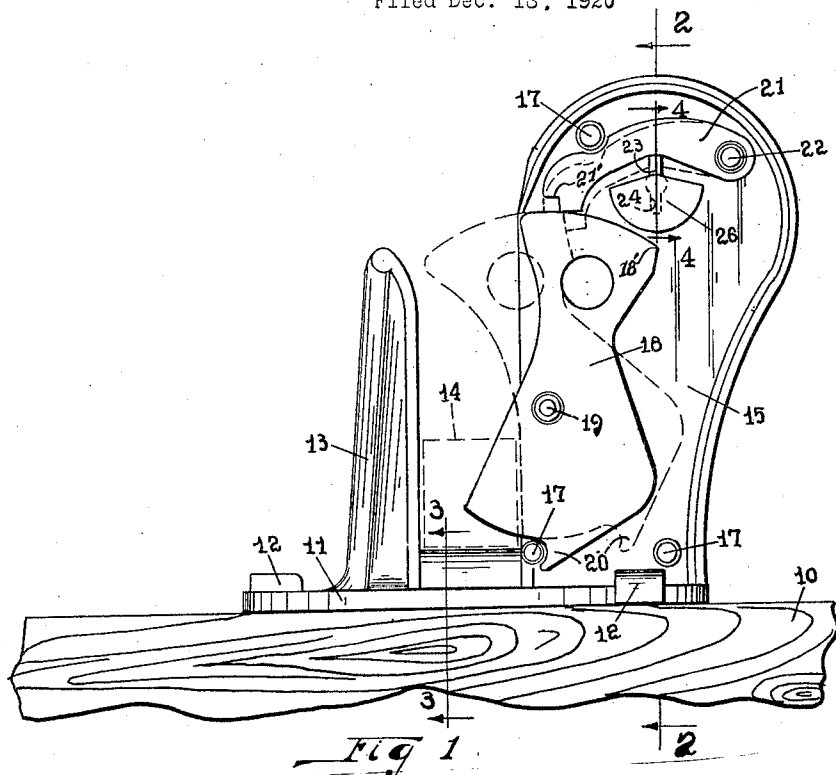
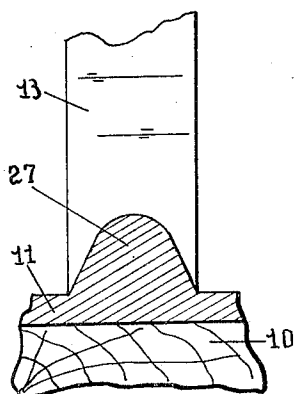
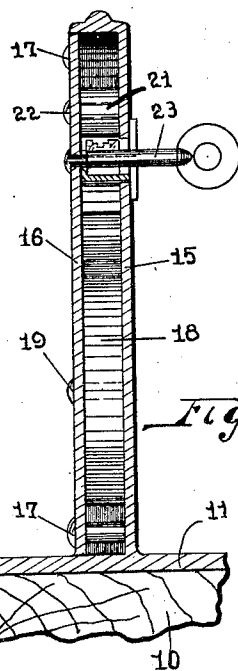
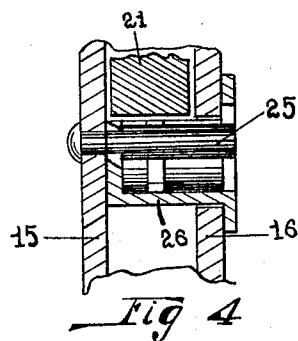
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S. G. WELLS

SWITCH LOCK

Filed Dec. 18, 1920



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UNITED STATES PATENT OFFICE.

SAMUEL G. WELLS, OF CHICAGO, ILLINOIS.

SWITCH LOCK.

Application filed December 18, 1920. Serial No. 431,656.

To all whom it may concern:

Be it known that I, SAMUEL G. WELLS, a citizen of the United States, and a resident of the city of Chicago, county of Cook and State of Illinois, have invented certain new and useful Improvements in Switch Locks, of which the following is a specification.

My invention relates to switch locks and it has for its principal object the provision of a new and improved arrangement of latching and locking means for holding a switch lever in position, this result being attained preferably without the use of springs or of delicate locking mechanisms which are likely to deteriorate rapidly in use when exposed to the weather.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which—

Fig. 1 is a front view of my improved mechanism with the front face plate removed for clearness of illustration,

Fig. 2 is a central vertical section taken on line 2—2 of Fig. 1,

Fig. 3 is an enlarged detail view, being a section taken substantially at line 3—3 of Fig. 1, and

Fig. 4 is an enlarged detail view, being a section taken at line 4—4 of Fig. 1.

Referring to the drawings, 10 indicates one of the cross ties of a railway track having a base 11 secured thereon by means of spikes 12 of any approved type. Rising from the base 11 is a standard 13 which in the construction shown is formed integrally with the base. The standard 13 is to be placed in such a position that a switch lever 14, shown in dotted lines in Fig. 1, is adapted to move up and down by the side of the standard, the arrangement being such that when the switch lever 14 is in position as shown in the drawings the switch which is to be operated by such lever is in position for the passage of a train, the switch (not shown) being located in a line of track at any convenient point adjacent thereto.

Rising from the base 11 adjacent to the standard 13 but in spaced relation thereto, I have provided another standard in the form of a housing comprising a member 15 as shown in Fig. 1 and a face plate 16 shown

in position in Fig. 2 for enclosing the working parts as hereinafter described, the face plate 16 being held in position by means of rivets 17. Pivotally mounted within the housing, I have provided a latch member 18, the opening for the pivot pin 19 being located near one side of the latch member whereby a preponderance of weight of the latch member is provided at one side of the pivotal axis so that there is a constant tendency of the latch member to turn in the direction for carrying the upper end of the latch member toward the right in Fig. 1, away from the standard 13. A lug 20 is provided at the lower end of the latch member which is adapted by engagement with the adjacent rivet 17 to limit the swinging of the latch member in clockwise direction in said Fig. 1. As is shown in Fig. 1, the side of the member 15 of the housing adjacent to the standard 13 is cut away for permitting the mounting of the latch member 18 and the rotary movement of such latch member about the pivot pin 19 as herein- after set forth.

With the latch member 18 in the position shown in solid lines in Fig. 1, with the outer edge of its lower end portion extending diagonally downwardly toward the standard 13, the switch lever 14 is adapted to be moved downwardly into the position shown in the figure, the engagement of the lever 14 with the protracted end portion of the latch member serving to turn the latch member about pin 19 into the position shown in dotted lines in said Fig. 1. For holding the latch member 18 in such turned position with its upper end portion protracted beyond the side of the housing so as to overlie the switch lever 14, I have provided an automatically acting latch 21 pivotally mounted upon a pivot pin 22. As is shown in the solid line position of the parts in Fig. 1, the latch 21 rests upon the upper end of the latch member 18 which is curved in the form of an arc about the pivot pin 19. When the latch member 18 is moved into the position shown in dotted lines, however, the latch 21 moves by gravity into engagement with the side of the latch member for preventing the return of the latch member to the position shown in solid lines; there being a notched portion 21 formed in the latch member 21 for the reception of the corner portion of the member 18 as indicated at 18'. With the latch 21 in lowered

position in contact with the side of the latch member 18, the latch member 18 is located in position serving to prevent the upward movement of the switch lever 14.

5 Inasmuch as the latch 21 is completely enclosed within the housing, it is necessary that means be provided for moving the latch upwardly for releasing the latch member 18. For this purpose, I have
10 provided a key 23, which is adapted to be inserted through a key opening 24 upon a pin 25 as is ordinary construction for raising the latch member in the manner indicated in Fig. 1. A safety barrel 26 of
15 any approved type is provided for co-operation with the key 23 for preventing operation of the latch 21 by unauthorized parties. As will be readily understood, the key 23 and its co-operating parts may be of any
20 approved construction and operation.

Between the housing and the standard 13, I have provided a rounded bar or support 27 which forms the stop by which
25 movement of the lever 14 is limited. By reason of the rounded formation of the part 27, the lever 14 upon coming down upon the upper edge of the block is adapted very readily to loosen any ice or snow
30 which may have gathered between the housing and the standard.

In operation, with the switch lever 14 held in position by the latch member 18 as is shown in dotted lines in Fig. 1, when it is desired to throw the switch operated by
35 the lever 14, the latch 21 is raised by the use of a suitable key, whereupon the weight of the latch member 18 causes such member to swing back into the position shown in solid lines upon the withdrawal of the
40 switch lever 14. Upon the removal of the key, the latch member is maintained by gravity in its solid line position in Fig. 1. When it is desired again to lock the switch in normal position corresponding to the
45 dotted line position of the lever 14, the lever 14 is free to assume the position as shown, serving to move the latch member again to the dotted line position in the manner above described. By the use of my construction, an operator is able to open the
50 switch and to close it again in due time by the use of a key only at the time when the switch is opened. By reason of the very simple construction without the use of any

part which is likely to deteriorate rapidly 55 or to break in use, my construction is adapted to last for an indefinitely long period and to give satisfactory service continuously.

While I have illustrated and described 60 the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the
65 precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I 70 claim as new and desire to secure by Letters Patent is:

1. Locking means for switch levers comprising a standard by the side of which a switch lever is adapted to pass, a housing 75 opposite said standard and in spaced relation with respect thereto, means arranged in said housing for locking said lever against movement, and a support traversing the space between said standard and
80 said housing by which movement of said lever is limited, said support being substantially oval shape in cross section and co-operating with said lever upon a downward movement thereof to keep the space between
85 said standard and said housing free from the collection of snow or the like.

2. Locking means for switch levers comprising a standard by the side of which a switching lever is adapted to pass, a hous- 90 ing opposite said standard and in spaced relation with respect thereto, means arranged in said housing for locking said lever against movement; means for releasing said locking means, and means arranged 95 between said standard and said housing and cooperating with said lever for keeping the space between said standard and said housing free from the collection of snow or the like.

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

SAMUEL G. WELLS.

Witnesses:

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