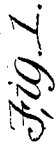


SIGNAL.

1,038,450.

2 SHEETS--SHEET 1.



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1,038,450.

Patented Sept. 10, 1912.
 2 SHEETS—SHEET 2.

Fig. 2.

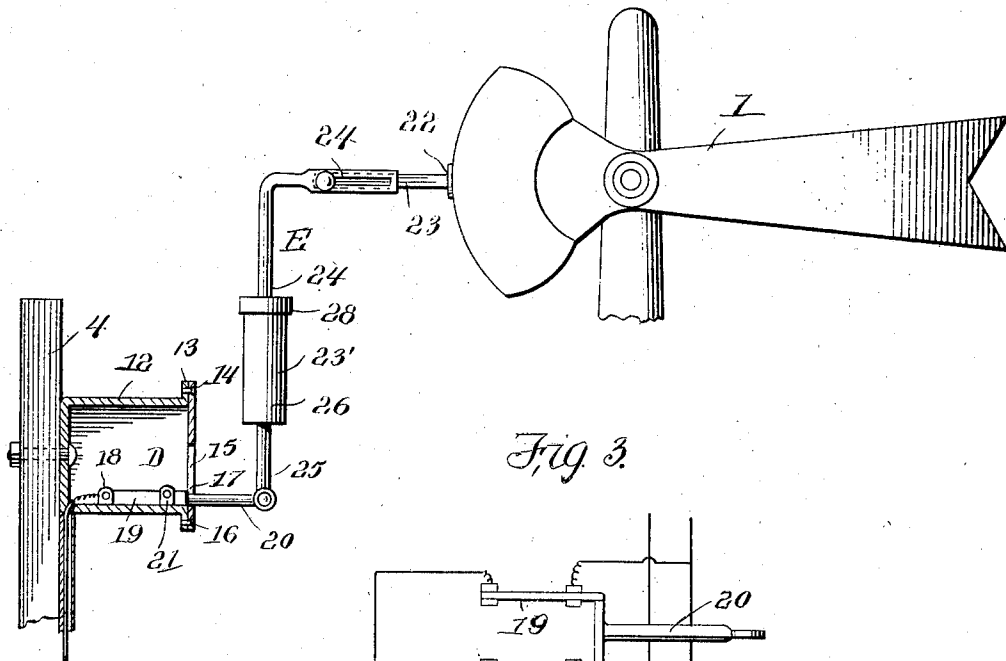


Fig. 3.

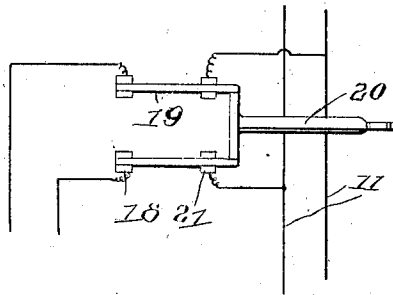
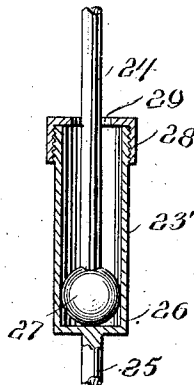


Fig. 4.



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SIGNAL.

1,038,450.

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To all whom it may concern:

Be it known that I, ROY C. SHOWALTER, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented new and useful Improvements in Signals, of which the following is a specification.

The invention contemplates improvements in signals and has particular reference to signals for indicating the positions of switch points in railroad track structures.

One of the objects of the present invention is to provide a signaling system of this character which shall include a semaphore, the signaling arms of which are connected with a plurality of lamps whereby in the signaling position of the arms the lamps may be illuminated to clearly define the positions of the arms.

Another object of the invention is the provision of a signaling system of this character, which shall include a semaphore, the signaling arms of which are connected with a plurality of lamps, the arms and lamps being connected in such a manner that the operation of the lamps is prevented previous to the signaling arms reaching their operative or inoperative positions.

With the above and other objects in view, which shall appear as the description progresses, the invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification:—Figure 1, is a perspective view of a signaling system constructed in accordance with the present invention. Fig. 2 is a side elevation of a semaphore arm and its operating mechanism. Fig. 3 is a detail view of the lamp switch. Fig. 4 is a detail view showing the connection between the signaling arm and the switch.

Similar reference characters designate like parts throughout the several views.

Referring more particularly to the accompanying drawings, wherein I have illustrated the preferred embodiment of the invention, A designates a railroad track structure, above which is mounted the signaling bridge B provided with the usual semaphore C which latter includes the varicolored signaling arms 1, 2 and 3. Adjacent the semaphore C and rearwardly of the signaling arms is a switch standard 4 upon

which are mounted the switches D having operative connections with the arms of the semaphore as will be hereinafter more fully described.

Adjacent the track structure A is a hollow standard 5 having secured to its upper end a lamp support 6 in which are mounted the electric lamps 7, 8 and 9, the latter being of various colors and connected with the signaling arms of the semaphore by means of conductors 10 and the switches D.

The numeral 11 designates the main feed wires to which are connected, in parallel, the switches D so that in the operation of the switches under the action of the signaling arms the lamps may be illuminated to warn the engineer of an approaching train of the position of the arms. Each switch D comprises a housing 12, bolted or otherwise secured to the standard 4 having a flanged outer end 13 to which is bolted the flanged end 14 of a removable cover 15, the cover being secured to the housing by means of bolts 16 passing through aligning openings in the flanges. The cover 15 is provided with a slot 17, the purpose of which will appear later. Projecting upwardly from the bottom of the casing 12 are spaced, parallel ears 18 between which is pivotally mounted a switch lever 19 provided with an operating handle 20 and designed to engage spaced contact strips 21 formed upon the interior of the housing 12 and in advance of the ears 18 to close the circuit to the lamp in the operation of the arm.

Rigidly secured to the rear end of each signaling arm is a yoke 22 provided with a rearwardly projecting post 23 adapted to be connected to one member 24 of an actuating mechanism E, through the medium of a socket 23'. The opposite member of the actuating mechanism E is designated at 25 and has its lower end pivotally connected to the operating handle 20 of the switch 19. At its upper or free end the member 25 has formed integral therewith, an elongated cylinder 26 in which is mounted for sliding movement a plunger 27 formed integral with the lower end of the member 24 and of less length than the similar dimension of the cylinder whereby in the movement of the signaling arm the member 24 will be permitted a slight vertical movement relative to the member 25 to prevent the operation of the lights previous to the signaling arm reaching its operative or inop-

erative position. The open end of the cylinder 26 is closed by a removable cap 28 formed with a centrally arranged aperture 29 through which operates the member 24.

5 The lamps 7, 8 and 9 are preferably in the form of arc lamps, and each is provided with a reflector to direct the light toward an approaching engine, whereby to indicate to an engineer, through the color of lamp 10 burning, the desired signal.

In practice; the signaling arms are connected with the switch points in any suitable manner so that in the movement of a switch, the arms may be operated to indicate the position of such switch. For the 15 sake of illustration we will assume that the arm 1 is moving in a downward direction. In downward movement, it will be seen that the arm 1 will elevate the member 24 of the actuating mechanism E independently of the member 25, incident to the relative dimensions of the plunger 27 and the cylinder 26. Immediately preceding the 20 arm 1 reaching the limit of its downward movement, the plunger 27 engages the cap 28 of the cylinder 26 and imparts upward movement to the member 25, which latter through its connection with the operating handle 20 and switch 19, disengages said 25 switch from the contact members 21, thereby breaking the circuit to the lamp. When the arm 1 is thrown in an upward direction, under the action of the switch it is seen that the above operation is reversed, just 35 before the arm reaches its limit of upward movement, the plunger 27 of the member 24 engages the bottom of the cylinder 26 and consequently moves the member 25 in a downward direction, whereby the switch 40 19 is engaged with the contact members 21 to permit the flow of current to the lamp.

From the above description, taken in connection with the accompanying drawings, it will be seen that I have provided a signaling 45 system, in which the condition of the lamps remains undisturbed in the movement of the signal arms, but are rendered operative or inoperative upon the arms reaching their limit of movement in an upward or downward direction. 50

Having described the invention, what I claim and desire to secure by Letters Patent is:

1. A signaling system comprising a sema-

phore, a lamp, a switch box having a switch 55 therein, a switch actuating mechanism pivotally connected to said switch, said mechanism comprising a lower member having a cylinder at its free end, an upper member slidable in said cylinder, means carried by 60 said upper member for limiting the movement thereof in said cylinder, and means connecting said upper member with said semaphore whereby said lamp is illuminated when said semaphore has reached the limit 65 of its upward movement.

2. A signaling system comprising a semaphore, a lamp, a switch box having a switch 70 therein, conducting means between said switch box and said lamp, a switch actuating mechanism pivotally connected to said switch, said mechanism comprising a lower member having a cylinder at its free end, an L-shaped upper member having one of 75 its arms slidable in said cylinder, means carried by said upper member for limiting the movement thereof in said cylinder, the other arm of said member being provided with an elongated slot, and means engaging 80 said slot and connected to said semaphore whereby said lamp is illuminated when said semaphore has reached the limit of its upward movement.

3. A signaling system comprising a semaphore, a lamp, a switch box having a switch 85 therein, conducting means between said switch box and said lamp, a switch actuating mechanism pivotally connected to said switch, said mechanism comprising a lower member having a cylinder at its free end, 90 an L-shaped upper member having one of its arms slidable in said cylinder, the other arm of said member being provided with an elongated slot, means engaging said slot and connected to said semaphore whereby 95 said lamp is illuminated when said semaphore has reached the limit of its upward movement, and means carried by the lower end of said L-shaped member for limiting 100 the movement of said member in said cylinder whereby said switch will be drawn in and out of contact.

In testimony whereof I affix my signature in presence of two witnesses.

ROY C. SHOWALTER.

Witnesses:

D. SHOWALTER,

THEO. D. CRAWFORD.