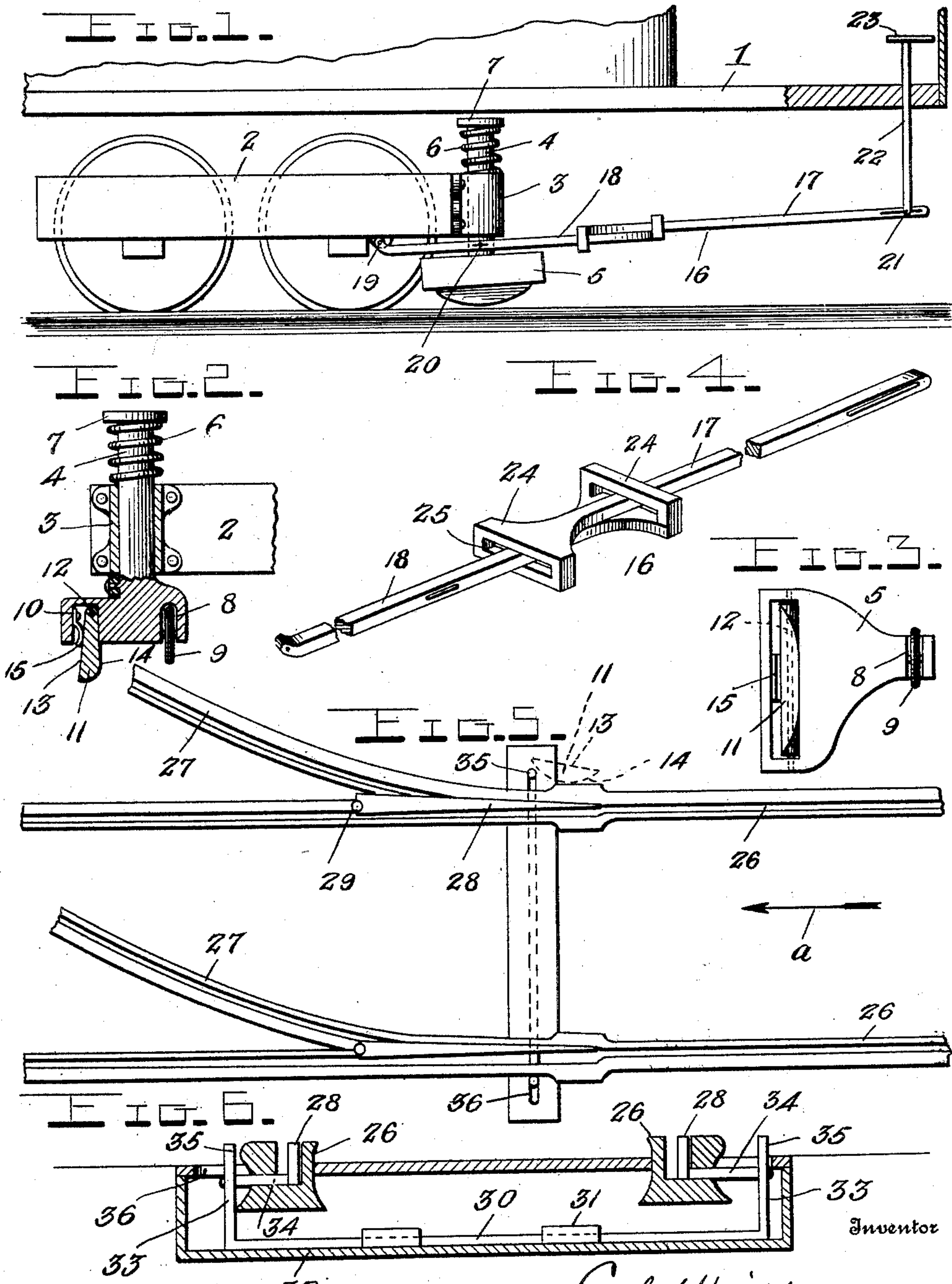


C. WEISS.  
 SWITCH POINT THROWER.  
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915,396.

Patented Mar. 16, 1909.



Witnesses

Chas. L. Griebner  
 J. M. Doeny

Carl Weiss

By

Watson E. Coleman  
 Attorney



# UNITED STATES PATENT OFFICE.

CARL WEISS, OF WASHINGTON, DISTRICT OF COLUMBIA.

## SWITCH-POINT THROWER.

No. 915,396.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed August 13, 1908. Serial No. 448,398.

*To all whom it may concern:*

Be it known that I, CARL WEISS, a subject of the Emperor of Germany, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Switch-Point Throwers, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in devices for throwing track switches from the platforms of cars and it consists in the novel features of construction and the combination and arrangement of parts herein-  
15 after fully described and claimed.

The object of the invention is to improve and simplify the construction and operation of devices of this character and thereby render them less expensive and more durable and effective.

20 The above and other objects of the invention are attained in its preferred embodiment illustrated in the accompanying drawings, in which—

25 Figure 1 is a detail view partly in elevation and partly in section of the front portion of a car having the improved switch point thrower mounted thereon; Fig. 2 is a detail vertical section through the device; Fig. 3 is  
30 a detail bottom plan view of the head at the lower end of the plunger rod; Fig. 4 is a detail perspective of the sectional lever; Fig. 5 is a plan view of the switch adapted to be actuated by the point thrower; and Fig. 6 is  
35 a vertical transverse section through the switch.

In the drawings 1 denotes a portion of the platform of a car and 2 denotes one of its pivotally mounted trucks. Upon the latter  
40 is arranged a vertically disposed bearing 3 in which is slidably mounted a plunger rod 4 having an enlarged head 5 at its lower end. The latter is adapted to be normally retracted by a coil spring 6 surrounding the  
45 plunger rod and arranged between the upper end of the bearing and a stop collar 7 fixed to the upper end of said rod. The head 5 is formed in its bottom adjacent to its inner side with a longitudinal recess or cavity 8 in  
50 which is journaled a small wheel 9 adapted to run in the groove of the track when the head is depressed; and also formed in the bottom of said head adjacent its outer side is a longitudinally extending recess or cavity  
55 10 in which is pivoted a shoe or cam plate 11 adapted to throw the switch point, as pres-

ently explained. Said shoe 11 is pivoted at its upper end, as at 12, and its enlarged lower end is provided upon its outer side with a flat face 13 and upon its inner side with a  
60 longitudinally curved or cam face 14. A stiff leaf spring 15 arranged in the cavity 10 is adapted to force the shoe 11 inwardly.

The plunger rod 4 is adapted to be depressed by a lever 16 composed of two loosely  
65 connected sections 17, 18, the latter of which is fulcrumed at 19 to the truck 2 and has a slot and pin connection, as shown at 20, with the plunger. The other section 17 of the lever has a slot and pin connection 21 with the  
70 lower end of a push rod 22 slidably arranged in the car platform 1 and having a foot piece 23 at its upper end. The loose connection between the sections 17, 18 of the lever 16 is clearly shown in Fig. 3 and is provided to al-  
75 low for the swinging movement of the truck 2 with respect to the platform 1. It consists in forming on the overlapping inner ends of each of the sections an enlargement 24 which extends laterally and is formed with a trans-  
80 verse slot 25 to receive the other section of the lever. It will be seen that this connection will permit the levers to swing angularly with respect to each other in a substantially horizontal plane but when the section 17 is  
85 depressed by the push rod 22 the section 18 will also be depressed and will carry the plunger rod 4 and the head 5 downwardly with it. The spring 6 tends to maintain the parts in their normal elevated or retracted  
90 position.

In Figs. 5 and 6 of the drawings 26 denotes the track rails of the main line, 27 the track rails of the switch or branch line and 28 the  
95 switch points which are pivoted at 29. Said points are connected together for simultaneous movement by means of a slidable cross bar 30 mounted in bearings 31 in a suitable box or casing 32 embedded beneath the track. Said cross bar 30 has upwardly pro-  
100 jecting ends 33 which are connected by arms 34 to the switch points 28 and which have their upper ends 35 projecting through slots 36 in metal plates arranged upon the top of the box or casing 32. Said projecting ends  
105 35 of the connecting cross bar 30 form operating pins or studs which are disposed upon the outer sides of the track rails and project above the surface of the ground so that they may be engaged and actuated by the cam  
110 faces 14 of the shoes 11 on the cars.

In practice, two of the switch point throw-



ers are provided upon each end of each car, one being upon each side of each end so that any one of the shoes 11 can be depressed to engage and actuate the projecting pins 35 and throw the switch points to the desired position. Supposing a car to approach the switch in Fig. 5 in the direction of the arrow *a*, should the motorman desire to carry the car on to the side track 27 he will depress the foot piece 23 on the right hand side of the car, whereupon the shoe 11 will be lowered to the position indicated in dotted lines in Fig. 5 and will engage the pin or projection 35 and actuate the sliding cross bar so that the switch points 28 will be thrown to permit the car to pass on to the rails 27. The wheel 9 on the head 5 of the depressed plunger rod will travel in the track groove and remove the strain from the bearing 3. The spring 15 is provided to permit the shoe to yield when a stone or other obstruction gets between it and one of the pins 35, said spring being of sufficient strength to prevent the shoe from moving under ordinary conditions when it strikes one of said pins 35.

Having thus described the invention what is claimed is:

1. The combination with a car platform and truck, of a plunger upon the truck and provided with a shoe to engage a switch point actuating member, a substantially horizontally disposed lever for operating the plunger, said lever being composed of sections connected together for horizontal swinging movement independent of each other, said sections being locked together to swing vertically with each other, one section being fulcrumed to the truck and operatively connected to the plunger and means upon the platform and connected to the other section of the lever for operating the latter.

2. The combination with track rails, a pair of oppositely disposed pivoted switch points, a casing beneath the track rails, guides in said casing, a cross bar slidable in

said guides and having rigidly connected upwardly projecting ends, the extremities of the latter projecting out of the casing and adjacent to the track rails to serve as operating pins, slidably mounted members connecting the switch points to the upwardly extending ends of the cross bar, of a car, and a shoe carried by the car and adapted to engage and actuate one of said operating pins.

3. The combination of a plunger having a head formed in its bottom with a longitudinally extending recess, a switch point throwing shoe arranged in said recess and depending below the bottom face of the head, a longitudinal pivot passed through the shoe and the head to pivot the shoe for lateral swinging movement, a leaf spring arranged in the recess in the head and engaged with the shoe for actuating the same in one direction and means for projecting and retracting said plunger.

4. The combination with a car platform and the truck, of a bearing upon the latter, a plunger slidable in said bearing and having a head at its lower end, said head being formed with cavities, a wheel journaled in one of said cavities, a spring pressed pivotally mounted shoe arranged in the other cavity and having a cam face, means upon the platform for depressing said plunger rod and means for elevating the same.

5. The combination with the car platform and the truck, of a vertically movable plunger carrying a switch throwing shoe, a lever fulcrumed upon the truck for actuating said plunger, said lever being composed of two sections having overlapping ends, each formed with a laterally disposed loop adapted to receive the other section and means upon the platform for actuating said lever.

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

CARL WEISS.

Witnesses:

L. O. LITTLE,  
H. F. McQUAY.