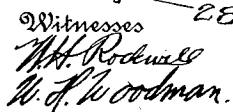


1,064,396.

2 SHEETS--SHEET 1.



Inventors

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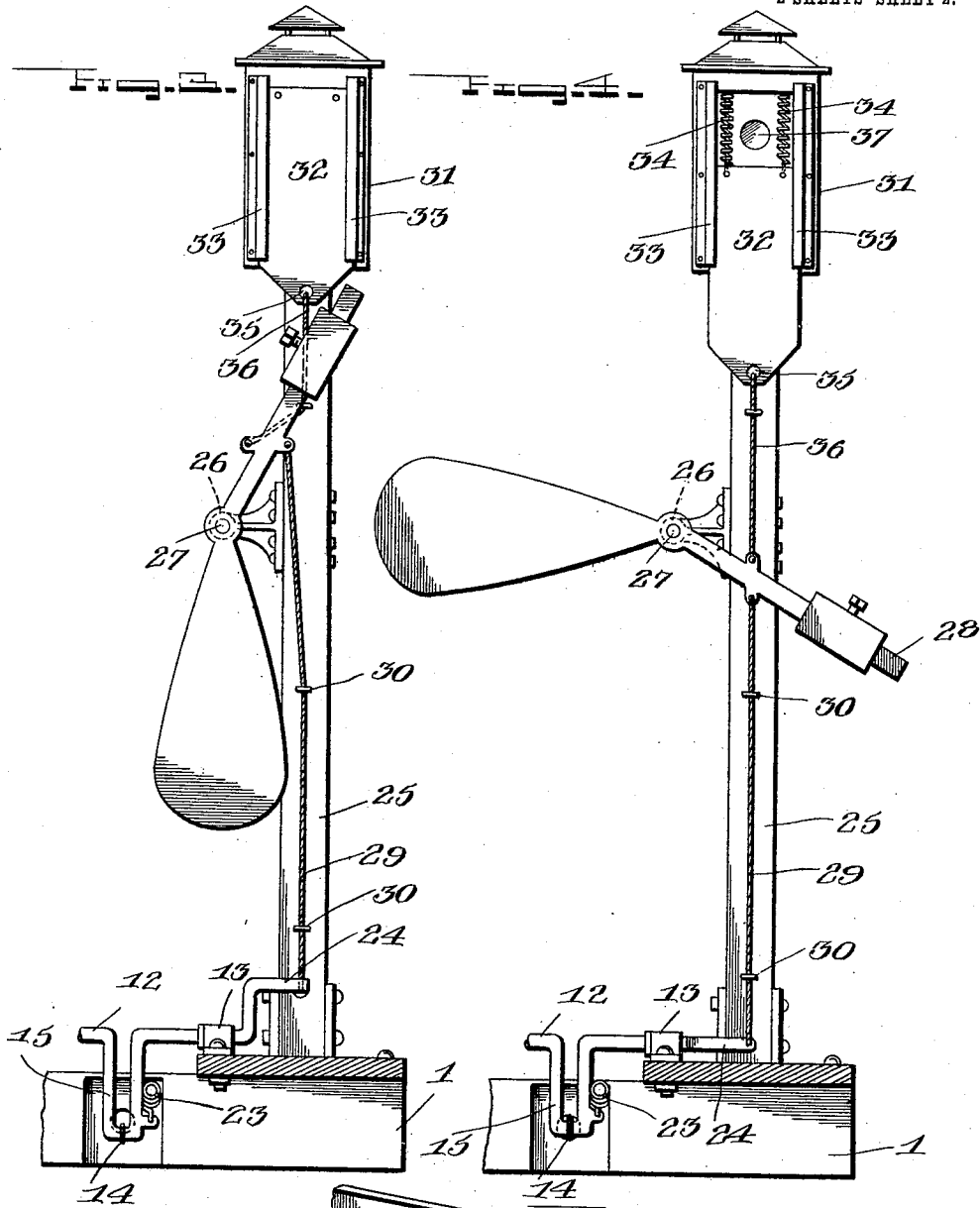
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D. J. TAYLOR & W. R. PRUITT.  
AUTOMATIC RAILROAD SIGNAL.  
APPLICATION FILED JULY 24, 1911.

1,064,396.

Patented June 10, 1913.

2 SHEETS-SHEET 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

DANIEL J. TAYLOR AND WILLIAM R. PRUITT, OF TALLASSEE, ALABAMA.

## AUTOMATIC RAILROAD-SIGNAL.

1,064,396.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed July 24, 1911. Serial No. 640,176.

*To all whom it may concern:*

Be it known that we, DANIEL J. TAYLOR and WILLIAM R. PRUITT, citizens of the United States, residing at Tallassee, in the county of Elmore, State of Alabama, have invented certain new and useful Improvements in Automatic Railroad-Signals; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in signaling systems for rail-ways and is especially adapted for use upon single track roads to prevent head-on collisions and the object of this invention is to improve the construction and increase the efficiency of signal systems employed for the above purpose.

A further object of this invention is to provide a signaling system in which the signal is thrown into operative position by the train while the latter is still at a distance and in which the signal is thrown out of operative position by the passage of the train.

A further object of this invention is to provide a system which will display two separate and distinct signals at one and the same time, one of which will be visible by day while the other will be visible by night.

With these and other objects in view, this invention will be more fully described, illustrated in the drawings which show a preferred embodiment of the system and then specifically pointed out in the claim which is attached to and forms a part of this application.

In the accompanying drawings:—Figure 1 is a broken side elevation of a conventional track with the signaling system applied thereto. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of the signaling standard itself, the signals being in inoperative position. Fig. 4 is a similar view showing the signals in operative position. Fig. 5 is a perspective of the mechanism carried by the engine for actuating the system.

Referring more specifically to the drawings in which similar reference numerals designate corresponding parts throughout, this improved system is shown as applied to

a railroad track of the customary form having ties designated by the numeral 1 and rails designated by the numeral 2. Secured to the extended ends of adjacent ties 1 is a suitable base or platform 3 provided at one end with alined bearings 4 in which is journaled the shaft 5 to which is secured by one end a rock plate 6 the other end of which is hingedly secured to a second rock plate 7 the free end of the latter being provided with laterally directed trunnions 8 which are slidably mounted in guides 9 carried by the other end of the base. Connected to the upper ends of these rock plates is a compression spring 9'. One of these trunnions 8 is extended beyond the side of the base and passes between the forked arms 10 of a lever 11 which is pivoted intermediate between its ends to the frame. The structure above described includes the mechanism acted upon directly by the train and through the medium of which the signaling mechanism proper is actuated. This signaling mechanism may be positioned at any desired distance from the operating mechanism described and in practice is usually located around a curve in the track in such a manner as to give warning of the approach of a train before the latter comes into view. This latter mechanism consists of a triple crank shaft 12 journaled in suitable bearings 13 which are also carried by the extended ends of adjacent ties. A cable 14 has one end secured to the lower end of the lever 11 while its other end is secured to the central crank arm 15 of the crank shaft 12 and it will be seen that downward pressure exerted upon the rock plate 6 will, by means of this cable cause a turning of the crank shaft. Journaled in suitable bearings 16 carried by the base and adjacent the crank arm 17 of a crank shaft 12 by means of trunnions 18 is a vertically extending standard 19 having intermediate between its ends a laterally directed arm 20 and a coiled spring 21 positioned between the end of this arm and the base or platform and is so proportioned as to normally maintain the standard in its vertical position. This standard is provided upon its forward face with a catch 22 so positioned that when the crank shaft 12 is rocked the crank arm 17 is forced downwardly against the downward face of the catch forcing the standard

back against the actuating spring until the crank arm is passed beneath the catch when the spring immediately forces the standard back to normal position thereby locking the crank arm in position. A second helical spring 23 has one end secured to the platform and its opposite end secured to the crank arm 15 to which the cable 14 is secured, the function of this second spring being to draw the crank arm back to its original position when the catch 22 is released.

Extending vertically upward from the base or platform in alinement with the third crank arm 24 of the crank shaft 12 is a post 25 and this post is provided intermediate between its ends with bearings 26 in which are journaled a shaft 27 upon one end of which is secured a counter-weighted semaphore arm 28 which normally extends in a vertical position. Secured to this semaphore arm is one end of a cable 29 the other end of which is passed downwardly through rings or other suitable guides 30 and is secured to the crank arm 24. Carried by the upper end of this post 25 is a casing 31 provided with a closure 32 which is slidably mounted in vertical guides 33 and normally held in closed position by means of coiled springs 34. The lower end of this closure extends a slight distance below the base of the casing and is apertured as at 35 to receive one end of the cable 36 the other end of which is secured to the semaphore arm at a point opposite the cable 29. Inside this casing is positioned a lantern or other suitable source of light 37 which in the inoperative position of the system is hidden from view by means of the closure but which is exposed to view upon the raising of the semaphore arm.

The cable 14 is preferably supported throughout its length by a plurality of pulleys 38 carried by the extended ends of ties 45 or other suitable supporting means.

In connection with this improved signaling system each engine has secured thereto in suitable position a device, which as shown in Fig. 5 of the drawings, consists of an arm 39 one end of which is firmly bolted to the engine and the other end of which extends beyond the same to such a distance as to pass directly over the rock plate 6. To this extended end is hingedly secured a downwardly depending hanger member 40 the lower end of which is provided with a roller 41 adapted to engage with the rock plate 6 to depress the same and thus actuate the signaling mechanism. As a means for limiting the rearward swinging of this hanger 40 the arm 39 is provided with a downwardly extending member 42 preferably formed of resilient metal and against which the hanger is forced upon its engagement with the rock plate. This effectually

limits the swinging of the hanger and at the same time cushions and protects it from breakage which would otherwise be caused by the sudden shock of the hanger striking against the rock plate.

The operation of the signaling system is clearly shown in the drawings and therefore requires but slight description. In normal position the lower ends of the rock plates 6 and 7 are drawn toward each other, the semaphore arm is in vertical position and the light in the casing is hidden from view by the closure which is in closed position. A train in passing down the track acts upon the rock plate 6 through the medium of the arm 39, hanger member 40 and roller 41 to depress the same and cause the pulling of the cable 14 by which means the motion is transmitted to the crank shaft 12, said shaft being turned until the crank arm 17 is engaged by the catch 22. This turning of the crank shaft acts through the medium of the cables 29 and 36 to move the semaphore arm into horizontal extended position and to lower the closure and thus expose the light to view and it will be seen that as long as the crank shaft is held in position by the catch the signal will be displayed. As the train passes the signals the hanger 40 strikes against the upper end of the standard 19 and releases the catch when the springs 21 and 23 immediately move the parts back to normal position thus releasing the strain on the cable 29 when the semaphore arm again passes to vertical position and the light is hidden from view by the closure 32.

It will be understood that the device as above described is adapted to operate only for cars passing along the track in one direction and that therefore in order to form a complete system a duplicate mechanism must be installed upon the opposite side of the track, the operating mechanism of the latter being positioned opposite the signaling mechanism of the former as will be readily understood.

What is claimed is:—

A signaling system, comprising a supporting base, bearings carried by said base, a plural armed crank shaft journaled in said bearings, an upright supported by said base, a lamp container supported on the upper end of the upright, a shutter slidably mounted on the lamp container, spring means constantly tending to move said shutter to closed position, a counterbalanced semaphore arm pivoted on the upright, a connection between the shutter and said arm whereby the spring closing means of the shutter will normally hold said semaphore arm in non-signaling position, connections between one arm of the crank shaft and the semaphore arm, means actuated by the passing of a train to turn said crank shaft and move the semaphore arm to signaling position and said

shutter to open position, a standard pivoted to the base and provided with a catch adapted to engage one arm of the crank shaft when the latter has been oscillated to dispose  
5 the semaphore arm in signaling position and further adapted to be thrown out of engagement with the crank shaft by a passing train, a lateral arm on said standard, a spring co-  
10 mally hold the standard in active position

and means for counter-turning the crank shaft when said catch is released.

In testimony whereof, we affix our signatures in presence of two witnesses.

DANIEL J. TAYLOR.  
WILLIAM R. PRUITT.

Witnesses:

A. W. HERREN,  
R. E. WILLIAMS.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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