

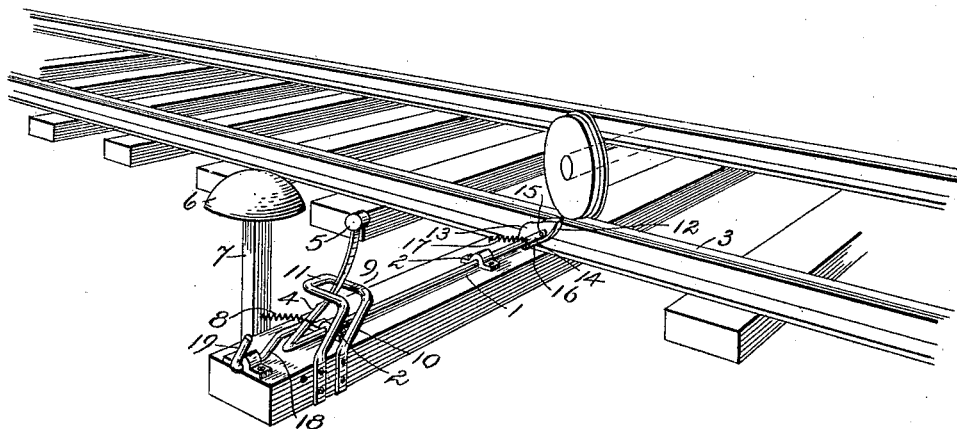
No. 649,482.

Patented May 15, 1900.

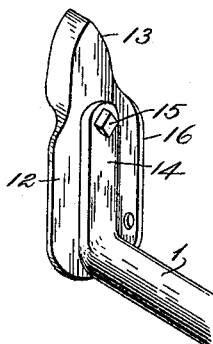
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**AUTOMATIC RAILWAY ALARM SIGNAL.**  
(Application filed June 10, 1897.)

(No Model.)

*Fig. 1.*



*Fig. 2.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC RAILWAY ALARM-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 649,482, dated May 15, 1900.

Application filed June 10, 1897. Serial No. 640,216. (No model.)

*To all whom it may concern:*

Be it known that I, ASA J. ROSE, of Grayling, in the county of Crawford and State of Michigan, have invented certain new and useful  
5 Improvements in Automatic Railway Alarm-Signals; and I 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  
10 the same.

This invention relates to an automatic railway alarm-signal adapted to be operated by the wheels of a car and comprising an arm  
15 lying adjacent to one of the track-rails and attached to one end of a shaft having signal-operating devices in connection with the opposite end.

The invention further consists of the details of construction, arrangement, and combination of the several parts, which will be  
20 more fully hereinafter described and claimed.

The object of the present invention is to apply a signal-operating mechanism in connection with a railway-track to communicate to  
25 the engineer, train-crew, or other persons that it is desirable to have the train moving thereover stopped, and thereby supplement and take the place of the ordinary track-torpedoes and other analogous devices now commonly employed.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a railway-track, showing the signal-operating mechanism applied in connection therewith and as  
35 being operated by a car-truck. Fig. 2 is a detail perspective view of the operating-arm and a portion of the shaft connected thereto.

Referring to the drawings, wherein similar numerals of reference are employed to indicate the corresponding parts in the views, the numeral 1 designates a shaft of suitable  
40 length mounted in bearings 2, situated adjacent to one side of the track-rails 3. The inner end of the shaft has a vertically-disposed arm 4 in connection therewith with a hammer 5 on the upper terminating portion thereof, which engages a gong 6, adjacently supported on a post 7. The said arm, as shown,  
45 is continuous with the shaft 1 and reduced in thickness at its upper portion to provide  
50 a spring action or yielding movement of the

hammer 5. To the lower part of the said arm is secured one end of a spring 8, the opposite end of said spring being attached to a convenient support and tending to throw the  
55 arm toward the gong 6. As a resistance to the retractile effort of the spring 8 a looped keeper 9 embraces the said arm, said keeper consisting, preferably, of two legs 10 of round material continued into a slightly-inclined  
60 loop 11 and providing an opening there-through for a purpose which will be presently set forth.

On the end of the shaft 1, and as more clearly shown in Fig. 2, is an operating-arm 12, having an upwardly-projecting reduced end 13,  
65 lying close against one of the rails and at a sufficient distance above the same to be struck by the successive wheels of the trucks on an engine and cars following the same, the said  
70 projecting end 13 being thickened or reinforced to prevent wear thereon and breakage through a sudden impact with the wheels. The end of the shaft 1 is bent upwardly at this point, as at 14, and to the upper end  
75 thereof the said arm is pivotally secured by a pivot-bolt 15. To one side of the body of the arm is free to pass the angularly-bent end of the shaft bearing thereagainst to permit the arm through its projecting end 13 to turn  
80 down and not operate the shaft and the gong 6. This permits the cars moving backwardly to pass over the projecting end 13 without operating the signal, as stated. The front edge of the body portion of the arm has an  
85 angularly-bent lip 16, which bears against the adjacent angularly-bent end of the shaft 1, and when the projection is struck by the wheels of a truck moving forwardly over the track the said lip impinges closely against the  
90 adjacent angularly-bent end of the shaft and throws the same and the arm 4 forwardly in order to cause the said arm to strike the gong 6 and give the desired signal. To normally  
95 sustain the projecting end of the arm in vertical position against the side of the rail, a spring 17 is connected to the lip 16 and to an adjacent support.

At the rear end of the shaft a suitable device is located for engaging the arm 4 and  
100 turning the shaft, together with the arm 12, out of operative position, and it consists of an

upwardly-extending arm 18, having an angularly-bent end to bear against the arm 4 continuously from a horizontal member movably mounted in connection with a suitable support and its opposite end arranged as an operating-handle 19. This device may be termed a "switch mechanism" and could be readily extended into and operated from an office or station.

It will be seen that the gong will continue to ring as long as the trucks move over the track-rails and strike the projecting end of the arm 12, and the said gong will be large enough to be easily heard by the engineer, trainmen, or persons within the cars, and form the means of giving a signal to stop a train to take on passengers, receive orders, or for other purposes.

The device as set forth dispenses with the use of signal flags and lights or semaphores, and it is obviously apparent that many minor changes could be made in the arrangement as well as in the construction of the several devices without departing from the scope of the invention.

In placing the device in operative position the several mechanisms will be covered or hidden and molestation thereof or tampering therewith be prevented. In the movement of the arm 4 back through the keeper 9 it will be guided in its movement by said keeper, and when it is returned to its normal position through the action of the springs 8 and 17 the hammer 5 will be in proper position to operate the gong 6. Furthermore, the several parts are of such a nature that they will not be affected by frost or the aggregation thereon of frozen particles and when positioned for use will always insure an accurate operation.

Having thus described the invention, what is claimed as new is—

1. In an automatic alarm-signal, the combination of a shaft, an arm movably mounted

on the outer end thereof having an inturned lip, and an upwardly-projecting reduced portion lying adjacent to a track-rail, a spring connected to the lip of said arm, an inner arm integral with the shaft carrying a striking device, a gong or signal situated for contact with said striking device, and a spring connected to the inner arm, substantially as and for the purposes specified.

2. In an automatic alarm-signal of the class set forth, the combination of a shaft, an arm movably mounted on the outer end thereof, a spring attached to said arm to hold in a normal position a striker-arm on the inner end of said shaft, a gong or signal situated adjacent to said striker-arm, a spring attached to said latter arm, and a switch for bearing against the said inner arm and lowering it and the outer arm out of operative position, substantially as and for the purposes specified.

3. In an alarm-signal of the character set forth, the combination of a shaft with an outer upturned end and continuous at its inner end with the striking-arm, an arm movably attached to the outer end of said shaft and having an upper reduced portion lying close to and projecting above an adjacent track-rail, said latter arm also having a lip bearing against the adjacent end of the shaft, a spring attached to said lip to normally hold the outer arm in operative position, a spring attached to the arm on the inner end of the shaft, a gong situated adjacent to the inner arm of the shaft, and means for throwing the several parts out of operation, substantially as and for the purposes specified.

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

ASA J. ROSE.

Witnesses:

JOHN F. HUM,

JOHN J. COVENTRY.