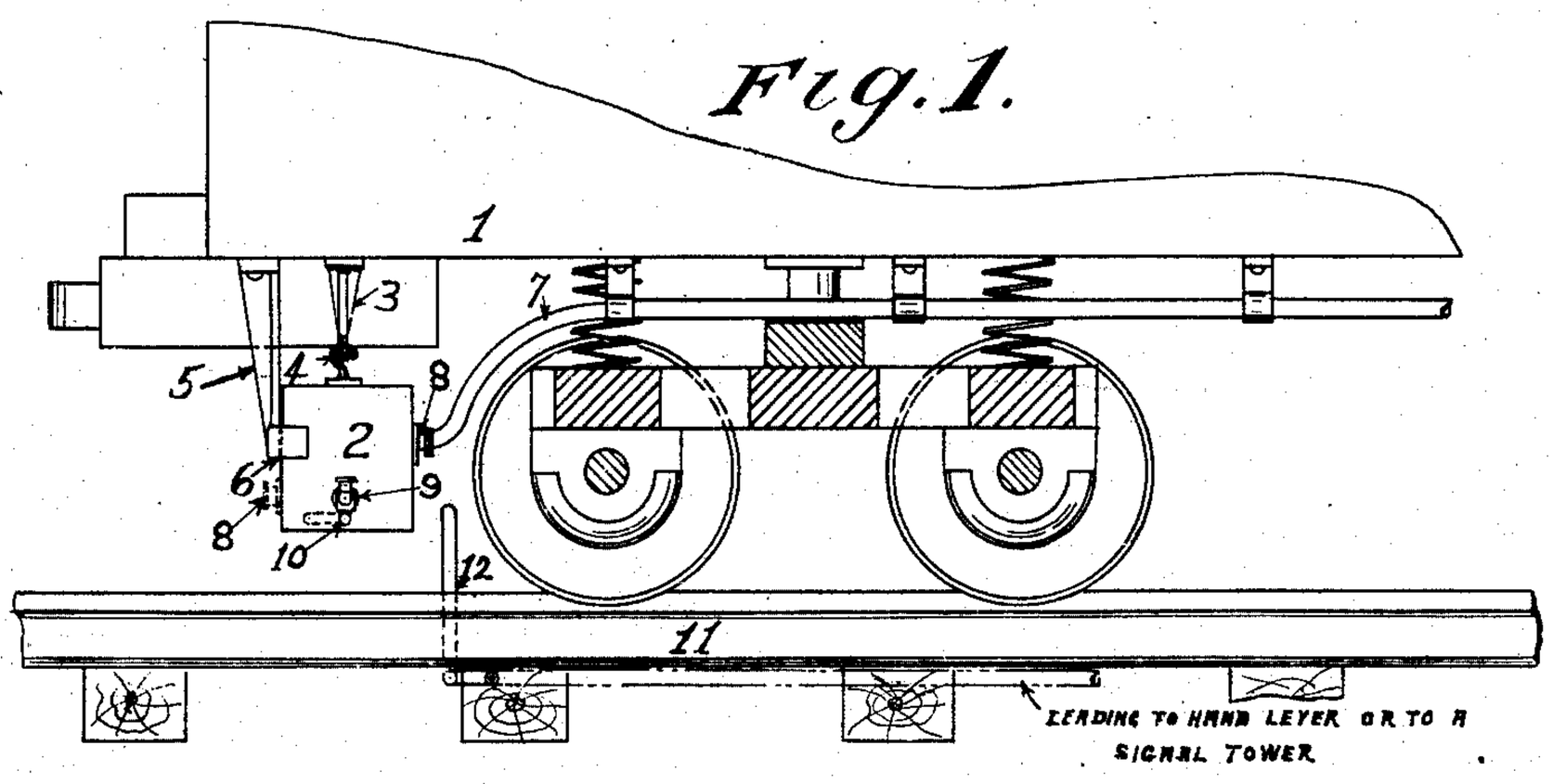
No. 864,538. PATENTED AUG. 27, 1907.

M. E. HOGAN.

RAILWAY SAFETY APPLIANCE.

APPLICATION FILED APR. 25, 1907.

Fig. 1.



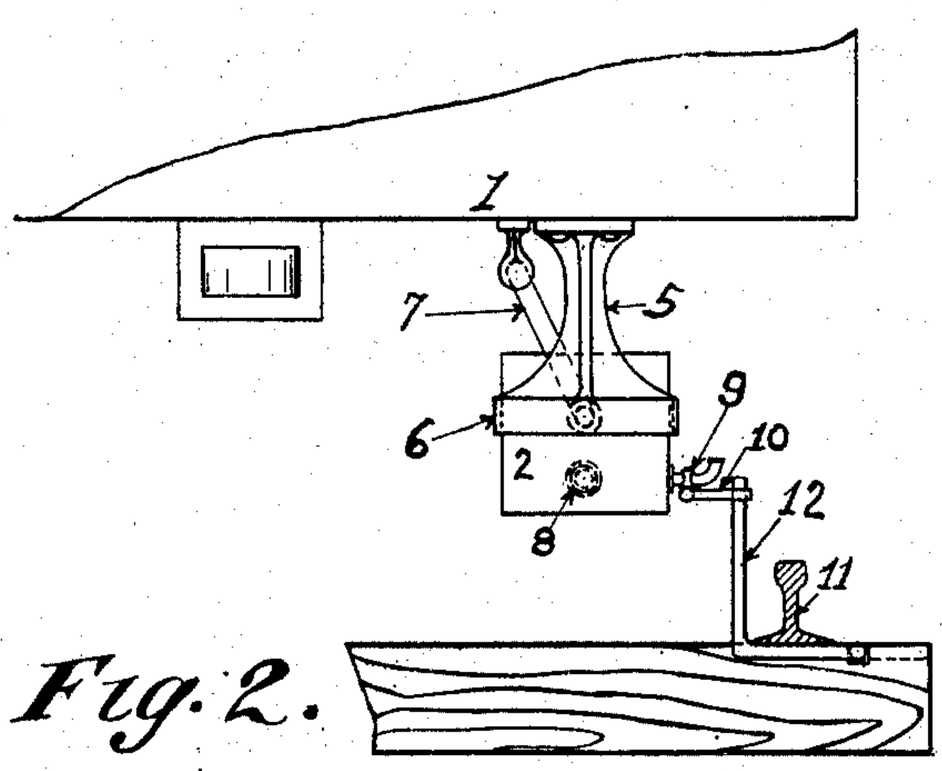


Fig. 2.

Witnesses
Jno. W. Daly
N. D. Phillips.

Michael E. Hogan
Inventor.

Joshua R. H. Potts
Attorney

UNITED STATES PATENT OFFICE.

MICHAEL E. HOGAN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO JAMES E. DOUGHERTY, OF CHICAGO, ILLINOIS.

RAILWAY SAFETY APPLIANCE.

No. 864,538. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed April 26, 1907. Serial No. 370,179.

To all whom it may concern:

Be it known that I, MICHAEL E. HOGAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Railway Safety Appliance, of which the following is a specification.

The present invention relates to automatic safety appliances for use in connection with railway trains.

It relates more particularly to trains equipped with what is known as the air-brake system in which all the wheel brakes are connected with a system of piping containing compressed air, the intentional or accidental release of which at any point in the system will cause the automatic operation of all the wheel brakes connected with this system of compressed air piping.

The invention has for one of its objects to increase the safety of railway travel by providing a device whereby trains may be safely stopped by an operator at a station independently of any action by the train crew and without their coöperation.

A further object is to provide a device which may be connected with the customary signaling apparatus whereby all trains that are not given the signal for "clear track", will be brought to a stop automatically in case of disregard of signals by the crew.

These objects are effected and carried out by providing a conveniently detachable box or tank suspended from the platform of the rear car of a train and provided at one side with a detachable hose connection for the air pipe which would be coupled to a corresponding pipe in the next car, were it not the last car in the train. Through this connection, the air pressure is admitted to the suspended box or tank. In the side of the box or tank is connected an escape cock or valve, the opening of which will release the air and thereby set the brakes. This cock or valve is provided with an outwardly projecting lever which, coming in contact with any obstruction would open the cock and release the air. For the operation of this cock or valve, I place in the track at or near the stations where it is desired that trains should stop, arms or cranks which may be erected so as to engage the lever of the escape cock on the rear of a passing train. These arms or cranks are to be connected with the signal system preferably arranged in pairs, one on each side of the track so that one of them will engage the escape-cock lever on trains going in either direction.

Having in view the objects that have been set forth and others which will appear as the nature of the invention is more fully disclosed, my invention comprises the various novel features of construction and arrangement of parts hereinafter more fully described, and set forth with particularity in the claims appended hereto.

In the accompanying drawing which illustrates one of the embodiments of my invention: Figure 1 is a part side elevation of a railway car and track showing my invention in connection therewith. Fig. 2 is a half end elevation of Fig. 1.

Corresponding numerals are employed to illustrate similar parts throughout.

Referring to the drawing, 1 is the platform of the car, from which is suspended the box or tank 2, upon the hanger 3, which engages the hook 4 in the top of the box 2. The box 2, is further secured in position by the bracket 5 which supports the box at the rear and is provided with the lugs 6 which secure the box against lateral displacement.

7 is a hose or pipe of the compressed air system that operates the brakes connected to the box 2, by the removable coupling 8.

9 is the escape-cock or valve in the side of the box 2, from which extends the lever 10.

11 represents one of the rails of the track between which are affixed the arms or cranks 12, which may lie low or be erected so as to engage the lever 10, of the escape-cock 9.

The operation of my invention is as follows: In making up a train, the box 2 will be placed on the rear car in the position shown and attached to the air connection 7, by the coupling 8. The arm 10, of the escape-cock 9, will be pointed outwardly, in which position the escape-cock will be closed. When the train approaches a signal, if the signals are set for a "clear track", the arm or crank 12, which is to be connected with the signal apparatus by any suitable mechanism, will be lying low between the rails and the train may pass by without incident. If, however, the signal is not for a "clear track", the arm or crank 12, will be in an upright position where it will engage the lever 10, swinging it to the position shown by the dotted lines in Fig. 1 and allowing the air to escape so as to set the brakes.

It will be seen that the apparatus which I have described makes it impossible for a train to pass a danger signal to which the apparatus is connected and that by its use the dependence that must be placed on human faculties is brought to a minimum and is confined, in fact, to the signal operators alone, it being rendered impossible for any train to pass in disregard of signals.

I have described the principle of operation of my invention and the device which I now consider the best embodiment thereof, but I desire it to be understood that the apparatus shown is merely illustrative and that various changes within the scope of the claims may be made when desired.

Having thus described my invention, what I claim is:

1. In a device of the class described, the combination with an air-brake system of a box or tank detachably secured to a railway train; means for connecting the said

box or tank to the usual hose coupling; an escape valve arranged upon said detachable box and having an outwardly projecting lever; arms or cranks attached to the railway track and adapted to be raised or lowered at will so as to engage or escape the outwardly projecting lever of the said escape cock or valve.

2. In a device of the class described, the combination with an air-brake system having the usual end hose couplings of a box or tank detachably secured to a railway train; means for connecting the last of said hose couplings to said box or tank; an escape cock or valve arranged upon said box and operated by an outwardly projecting lever; arms or cranks attached to the railway track and adapted to be raised or lowered so as to engage or escape the said outwardly projecting lever; means for connecting the said arms or cranks to a signaling apparatus in such manner that the arms or cranks will engage or escape the said outwardly projecting lever according to the signal displayed.

3. In a device of the class described, a car and the air brake system of a train in combination with a hanger arranged beneath said car, an air chest detachably suspended from said hanger and having means for attaching the end hose coupling of said system thereto, a valve arranged upon the outer side of said box and having an operating lever, and an arm arranged upon the roadbed and adapted to be raised or lowered at will to engage or escape said operating lever, substantially as described.

4. In a device of the class described, a car and the air brake system of a train in combination with a hanger arranged beneath said car, an air chest detachably suspended from said hanger and having means for attaching the end hose coupling of said system thereto, a valve arranged upon the outer side of said box and having an operating lever, a brace to maintain said box in position, and an arm arranged upon the roadbed and adapted to be raised or lowered at will to engage or escape said operating lever, substantially as described.

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

MICHAEL E. HOGAN.

Witnesses:

HELEN F. LILLIS,

FRANCES E. SHEEHY.