

(No Model.)

L. LYNDON.

HOT BOX INDICATOR FOR RAILWAY CARS.

No. 543,743.

Patented July 30, 1895.

Fig. 1.

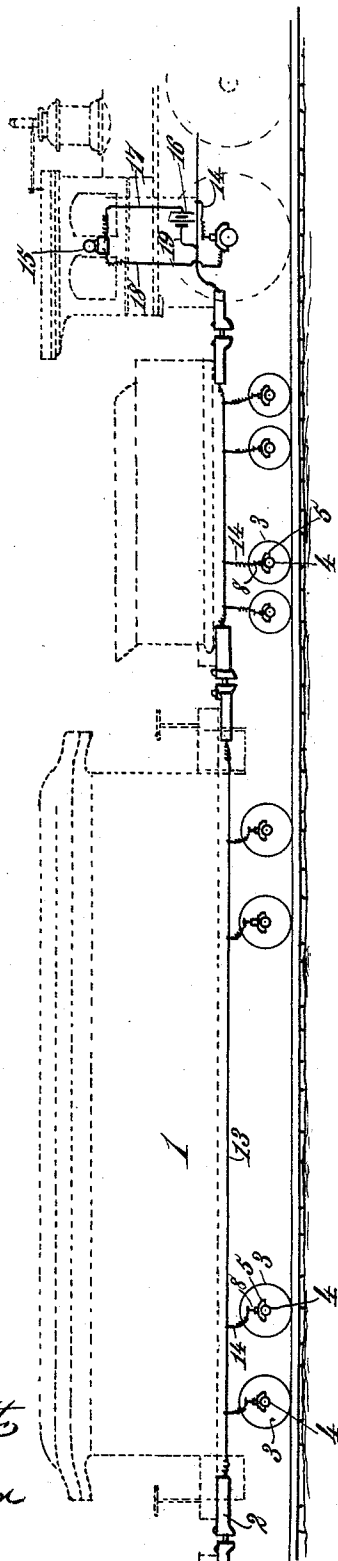
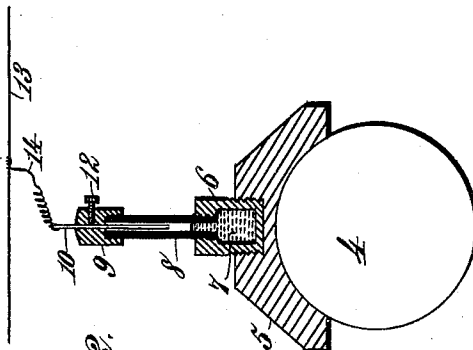


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE

LAMAR LYNDON, OF ATHENS, GEORGIA.

HOT-BOX INDICATOR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 543,743, dated July 30, 1895.

Application filed December 13, 1894. Serial No. 531,660. (No model.)

To all whom it may concern:

Be it known that I, LAMAR LYNDON, a citizen of the United States, residing at Athens, in the county of Clarke and State of Georgia, have invented new and useful Improvements in Hot-Box Indicators for Railway-Cars, of which the following is a specification.

My invention relates to hot-box indicators for railway-cars of that type in which the expansion of a fluid body, like mercury, is made to close the circuit of an electric battery and sound an alarm.

It is my purpose to simplify and improve the construction and arrangement of the parts of the signaling apparatus to render it capable of being readily attached to and detached from the journal box or bearing of a railway-car axle.

My invention consists to these ends in the novel features of construction and new combinations of parts, hereinafter fully explained, and then particularly pointed out and defined in the claim.

To enable those familiar with the art to which my invention pertains to fully understand and to make and use the same, I will now proceed to describe said invention in detail, reference being had for such purpose to the accompanying drawings, in which—

Figure 1 is a sectional elevation illustrating my said invention. Fig. 2 is a detail section showing the means for adjusting the position of the circuit-closing contact or terminal.

The reference-numeral 1 in said drawings indicates a railway-car either for freight or passenger traffic, said car being equipped in any usual manner with draw-bars or coupling-heads 2 and wheels 3, mounted on axles 4. The journals of the car-axles have bearing in journal-boxes of the ordinary construction or of any form that may be preferred, as my invention is compatible with all possible variations in construction of the running-gear and couplings. Upon each journal or in contact with the same is a bearing 5, of conducting metal, preferably brass, and resembling in its form an ordinary pillow-block. Said bearing may form part of the bearing for the journal or it may be wholly separate, the latter construction being in some respects the best, as it avoids the obstruction offered

by oil and other lubricants to the passage of the electric current.

Upon the bearing 5 is mounted a plug 6, formed of conducting material. This plug is preferably screwed into a seat in the bearing, and it contains a chamber 7, which holds a body of mercury. In the upper end of the plug 6 is inserted a tube 8, formed of glass or other non-conducting material, and having a bore of comparatively small diameter. The upper extremity of the tube is provided with a cap 9, having a small aperture, through which is inserted a wire 10, which passes downward in the bore of the tube 8 to a suitable point with reference to the body of mercury therein. This wire is held at any point to which it is adjusted by means of a set-screw 12, tapped through the cap and entering the aperture for the wire.

Upon each car, beneath its body, is arranged a main wire 13, the ends of which are permanently connected to the draw-bars or coupling-heads 2. From this wire shunt-wires 14 are led to the indicators and connected to the circuit-closing contacts or terminals 10, which may form integral portions of the shunt-wires.

The alarm or signal may be of any preferred form; but I prefer to use a simple electric bell 15, which may be located upon a car or in the cab of the locomotive. The battery 16, which magnetizes the coils of the bell-magnets, is placed at any convenient point and one pole of the same is connected by a wire 17 to one terminal of the bell-coils, the second terminal of the latter being in electrical communication with the running-gear by a wire 18. The second pole of the battery is connected by a wire 19 to the main conductor 13. If the journal of any axle becomes heated, the increased temperature is communicated to the bearing 5, which has contact with said journal. The mercury in the plug 6 being expanded it rises in the tube 8 until it reaches the terminal 10, and the circuit of the battery, including the bell-coils, is at once completed, as follows: starting from the positive pole of the battery, over wire 19, main conductor 13, coupling-heads 2, wire 13, shunt-wire 14, terminal 10, mercury and plug 6, bearing 5, heated journal and wheels, to the rails, thence to the wheels of the car or cab,

where the battery is located, over wire 18, through bell-coils, and over wire 17 to the negative pole.

What I claim is—

5 In a hot-box indicator, a plug adapted to receive mercury said tube being formed of conducting material, and screwed into a seat in a conducting bearing, a glass tube inserted in said plug, a cap closing the top of the tube,
10 a wire entering through said cap, a set screw

tapped through said cap and bearing against the wire, a battery and a signal operated by the latter, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of 15 two subscribing witnesses.

LAMAR LYNDON. [L. S.]

Witnesses:

H. C. BERNARD,
LEE BERNARD.