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E. M. BLAIR

SAFETY ATTACHMENT FOR JOURNAL BOXES

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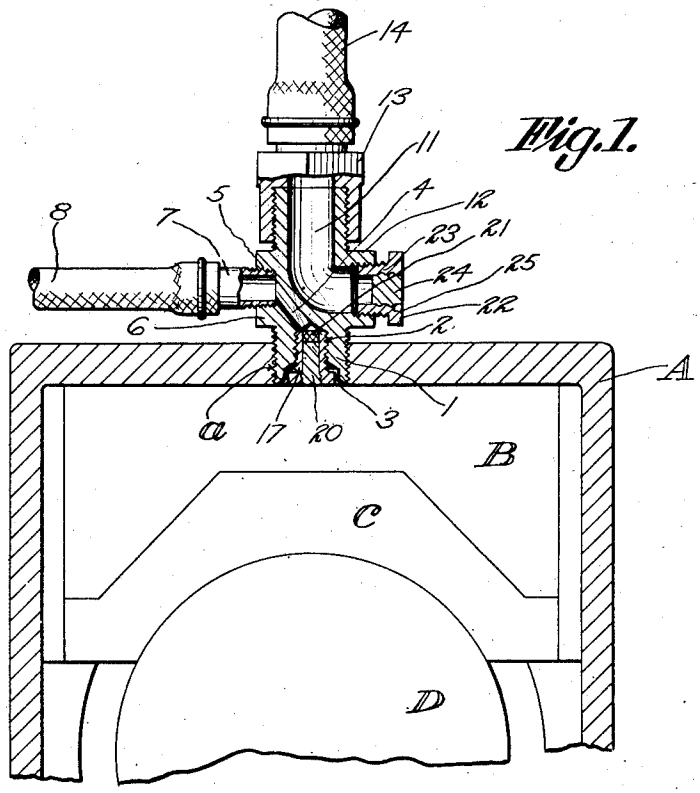


Fig. 1.

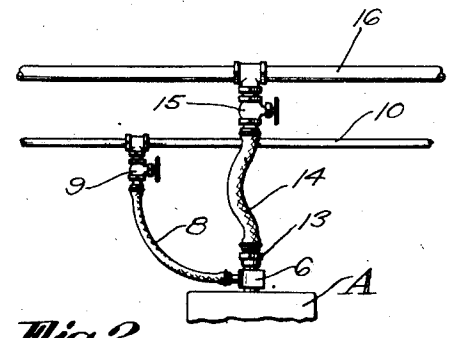


Fig. 2.

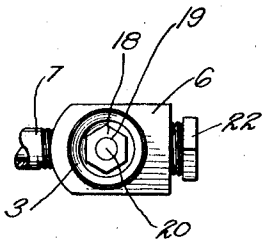


Fig. 3.

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UNITED STATES PATENT OFFICE.

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SAFETY ATTACHMENT FOR JOURNAL BOXES.

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This invention relates to a safety attachment for the journal boxes of railway cars, one of the objects being to provide means whereby, when the box becomes heated to a predetermined temperature means will be released for cooling the box, but, should said means fail in producing desired results, further heating of the box will release air from the air-line and cause the application of the air brakes.

It is well known that hot boxes frequently produce disastrous results because in many cases it is difficult to detect them until the bearings are actually burned out. As before pointed out the present invention has for its object to automatically detect an overheated box so as to first cool the same and, thereafter, if necessary apply the brakes, all of this operation taking place automatically.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,

Figure 1 is a section through a portion of a journal box showing the present improvements combined therewith, the attachment being likewise shown in section.

Figure 2 is a view more or less in diagram showing the connections between the attachment.

Figure 3 is a bottom view of the attachment.

Referring to the figures by characters of reference A designates a journal box provided with the usual plate B and brass C, the brass engaging the axle D. The attachment constituting the present invention includes a screw plug 1 adapted to be inserted into a threaded opening *a* formed at suitable point in the housing A. This screw plug has a threaded bore 2 extending thereinto from its lower end, the outer end of this bore being enlarged or counterbored as shown at 3. A passage 4 connects the inner end of the bore 2 to a recess 5 formed in the side of the body portion 6 of the attachment. A nipple 7 extends from this recess and is adapted to be connected by a flexible hose 8 to a valved extension 9 on the water-line 10 of a car.

Extending downwardly into the body portion 6 of the attachment from the upper end thereof is a bore 11 opening laterally through the side of the body 6, the lower or outlet end of this bore being internally screw threaded as shown at 12. The upper end of the body portion 6 is adapted to be connected by a suitable coupling 13 to a short flexible hose 14 which joins the attachment to the valved extension 15 of the air-line 16 of a car.

Insertable into the bore 2 is a screw plug 17 having an angular head 18 at its lower or outer end. Extending through this plug is an opening 19 partly filled with a material 20 adapted to melt when subjected to a predetermined temperature. Seated within the upper or inner end portion of the screw plug is a protecting washer or filling 21 which can consist of a mixture of oil and asbestos, the said mixture being pressed compactly into the plug so as to prevent water from coming into contact with the fusible material 20 and chilling it.

Another screw plug 22 is insertable into the outlet 12 of the bore 11 and this plug is likewise provided with a central opening 23 containing a filling 24 of fusible material which can be suitably anchored in the plug by having it extended into annular grooves 25.

Under normal conditions the plugs 17 and 22 are in engagement with the body portion 6 as already explained. Thus when the valves 9 and 15 are opened water will be free to flow through the passage 4 to the inner ends of bore 2 and air under pressure in the line 16 will be free to flow into the bore 11. The water and air will be held under restraint, however. Should the bearing become overheated, heat will be conducted therefrom to the housing A and thence to the body 6. This will result in the melting of the material 20 and, consequently, the pressure of the water in the line 10 and hose 8 will be sufficient to cause the water to flow through passage 4 and against the filling 21, washing the filling out of the screw plug 17 following the melting of material 20. The water will flow into the bearing and tend to chill it. It will also have a lubricating action. However if the release of water into the housing A fails to properly cool the bearing and the bearing and

housing continue hot, heat will be conducted from the housing through the body 6 to the plug 22 with the result that the fusible filling 24 in said plug will be melted. This will release the air contained under pressure and, consequently, the air brakes of the train will be applied automatically.

It is designed to keep on hand a supply of the screw plugs so that the discarded ones can be replaced readily.

By providing an attachment such as described the danger incident to overheated bearings is practically eliminated and the loss of time frequently resulting from the stopping of the car due to an overheated bearing is avoided.

What is claimed is:

1. The combination with the journal housing of a railway car, an air-line and a water-line, of a member having a water outlet and an air outlet, one of said outlets opening into the housing, means for maintaining communication between the water outlet and the water-line and between the air outlet and the air-line, and fusible closures for the water outlet and the air outlet respectively.

2. The combination with the journal housing of a railway car, an air-line and a water-line, of a member having a water outlet and an air outlet, one of said outlets opening into the housing, means for maintaining communication between the water outlet and the water-line and between the air outlet and the air-line, a plug removably mounted in the water outlet, a plug removably mounted in the air outlet, and a fusible filling in each plug.

3. The combination with the journal housing of a railway car, an air-line and a water-line, of a member having a water outlet and an air outlet, one of said outlets opening into the housing, means for maintaining communication between the water outlet and the water-line and between the air outlet and the air-line, a plug removably mounted in the water outlet, a plug removably mounted in the air outlet, a fusible filling in each plug, and means for protecting the fusible filling in one of the plugs from the cooling action of the water.

4. An attachment of the class described including a body having a water receiving recess with a passage extending therefrom, and an air receiving bore, there being an outlet in communication with said passage and another outlet in communication with said bore, a screw plug insertable into the outlet at the end of the passage, a screw plug insertable in the air outlet, said plug having an opening therethrough, and a material for normally closing the openings in the screw plugs and fusible by heat conducted thereto through the body.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

EDWARD M. BLAIR.