

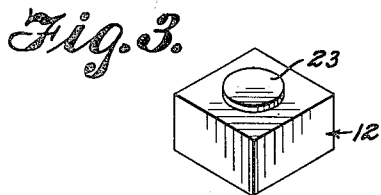
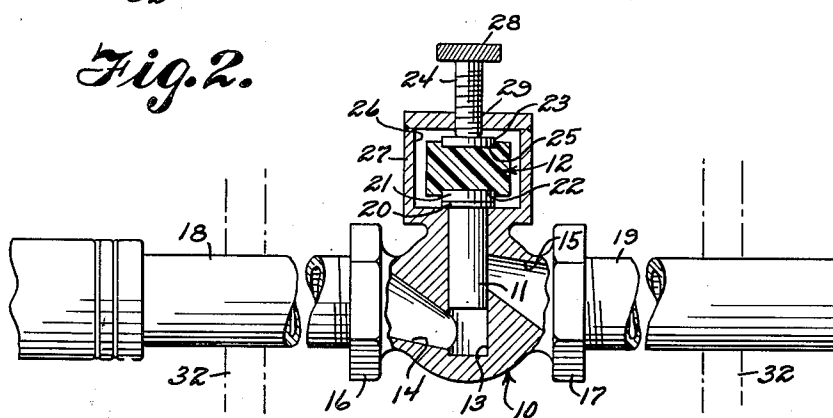
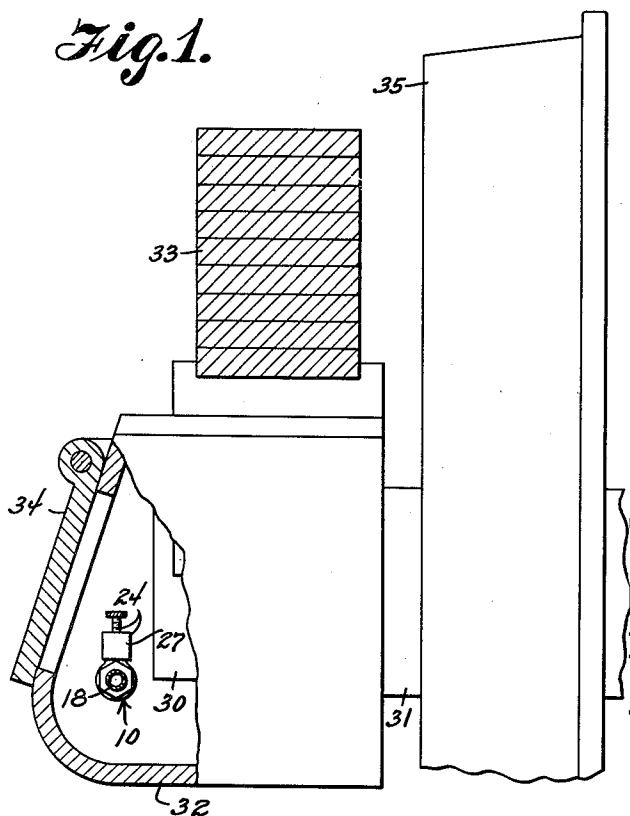
March 9, 1954

A. J. HEBERT

2,671,461

RAILWAY CAR JOURNAL BOX FUSE

Filed March 16, 1950



INVENTOR.
Arthur J. Hebert
BY *Victor J. Evans & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE

2,671,461

RAILWAY CAR JOURNAL BOX FUSE

Arthur J. Hebert, Scott, La., assignor to National Alarms Corporation, Lafayette, La., a corporation of Louisiana

Application March 16, 1950, Serial No. 149,936

1 Claim. (Cl. 137—72)

1

This invention relates to devices for detecting over-heating in journal boxes on the ends of axles of railway cars and the like, and in particular this invention relates to a fuse incorporated in a section of an air line passing through the journal box which when the temperature of the journal reaches a predetermined degree, melts and opens a valve that permits passage of air through the line and thereby bringing the train to a stop.

The purpose of this invention is to provide a safety device for stopping a train upon over-heating of a journal box thereof whereby wrecks caused by turning off of over-heated axles and the like are substantially eliminated.

Various attempts have been made to prevent over-heating of journal boxes of railway trains and indicating devices of different types have been provided in combination with the journal boxes but, because safety devices of this type only function in an emergency so that they remain inactive for long periods of time they cannot be depended upon and in critical cases fail to operate. With this thought in mind this invention contemplates a safety device that is positively operated by air pressure of the air system of the train and in which a fusible material releases the air pressure when temperature of a journal in which it is installed reaches a predetermined degree.

The object of this invention is, therefore, to provide means for forming a safety device for railway car journals that does not require continuous attention and that positively operates when over-heated.

Another object of the invention is to provide a safety device for detecting over-heated journal boxes that may be installed in journal boxes now in use.

Another object of the invention is to provide a safety device for detecting over-heated journal boxes of railway trains that may be installed in a journal box without interfering with changing the brass or bearings thereof.

A further object of the invention is to provide a safety device for detecting over-heated journal boxes of railway trains which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies an emergency safety device including a valve having a valve element retained in the position of closing the valve by a fusible element with means adjusting the position of the fusible element and with means for connecting the valve in the air pressure line of the train.

2

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a sectional view through part of a railway train showing part of a wheel, axle, and journal box with part of the journal box broken away showing the position of the safety valve in relation to the end of the axle.

Figure 2 is an elevational view showing the safety valve incorporated in the air pressure line with part of the valve broken away and shown in section.

Figure 3 is a detail illustrating a fusible element adapted to be used in the valve.

Referring now to the drawings wherein like reference characters denote corresponding parts the safety fuse actuated valve of this invention includes a valve body 10, a valve plunger 11 and a fusible element 12.

The valve body 10 is formed with a centrally disposed cylindrical chamber 13 in which the plunger 11 is slidably mounted and inlet and outlet connections 14 and 15, respectively are provided in the body 10. The ends of the body are provided with nuts or flat sided flanges 16 and 17 and air pressure tubes 18 and 19 are threaded into the ends of the body as shown in Figure 2.

The plunger 11 is provided with a head 20 that is positioned to engage a disc 21 in a recess 22 in the surface of the element 12 and a similar disc 23 on the inner end of an adjusting screw 24 is positioned in a recess 25 in the opposite side of the element.

The fusible element 12 is positioned in a chamber 26 in the valve bonnet 27 and the adjusting screw 24, which is provided with a head 28 is threaded in a cap 29 on the end of the valve bonnet.

With the parts arranged in this manner and with the element 12 formed of sealing wax or a suitable fusible material, the element will melt when the temperature of the end 30 of the axle 31 reaches a predetermined temperature and as the element 12 melts the air pressure from the tube 18 in the opening 14 forces the plunger 11 upwardly whereby the air passes through the opening 15 to the tube 19 and brings the train to a stop. The lower end of the screw 24 limits the upward movement of the plunger 11 whereby the air does not escape through the valve.

The lead disc 21 and also the recesses in the element 12 may or may not be used as desired.

The safety device is installed in a journal box 32 with the tubes 18 and 19 positioned in openings in end walls of the journal box and, as illus-

3

trated in Figure 1 the openings position the valve with the fusible element therein located close to the end of the journal and spaced therefrom a sufficient distance to permit end play of the axle. The device is also positioned at a point below the center of the axle to permit changing the brass of bearing elements in the journal box.

In the design shown the journal box is positioned below a spring 33 and the box is provided with a cover 34. A wheel 35 is carried by the axle 31.

It will be understood that other modifications within the scope of the appended claim may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

In a pressure actuated valve for use in a railway car journal box, a substantially cylindrical valve body having wrench gripping surfaces on the ends and a hollow cylindrical casing providing the valve bonnet extended from one side, said valve body having a vertically disposed bore positioned midway between the ends and extended from said valve bonnet inwardly through the body and to a point spaced from the side of the body opposite to that from which the valve bonnet extends, a plunger having a head on the upper end slidably mounted in said bore, said valve body having substantially conical-shaped connections extended inwardly from the ends thereof to the bore and the points of intersection of said connections with the bore being offset vertically whereby the plunger is adapted to close a passage between said connections, a block of fusible ma-

4

terial providing a fusible element in said valve bonnet, said block having circular recesses in upper and lower surfaces thereof, discs positioned in the circular recesses of said block and said block positioned whereby one of said discs is in engagement with the head of the plunger, a cap on the upper end of said valve bonnet and an adjusting screw threaded in said cap, aligned with the plunger and positioned to engage the disc on the upper side of the block forming the fusible element.

ARTHUR J. HEBERT.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
201,352	Little et al.	Mar. 19, 1878
852,802	Sears	May 7, 1907
971,295	Menear	Sept. 27, 1910
1,047,529	Jenkins	Dec. 17, 1912
1,058,993	Marvin	Apr. 15, 1913
1,511,302	Schnetzer	Oct. 14, 1924
1,511,978	Muhleback	Oct. 14, 1924
1,512,456	Carmen	Oct. 21, 1924
1,600,468	Hennebohle	Sept. 21, 1926
1,715,665	Mason	June 4, 1929
1,988,907	Lovekin	Jan. 22, 1935
2,104,039	Hunter	Jan. 4, 1938
2,166,277	Adams	July 18, 1939

FOREIGN PATENTS

Number	Country	Date
278,859	Great Britain	Oct. 20, 1927