Nov. 24, 1931. L. AQUIAR Y RIVERO 1,833,796

TRIPLE VALVE PROTECTOR

Filed Oct. 31, 1930

Fig. 1.

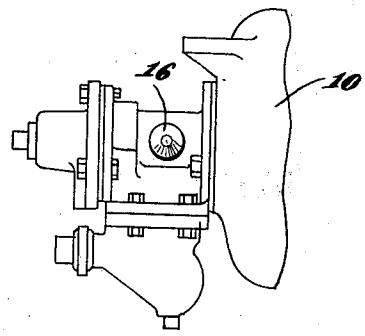


Fig. 2.

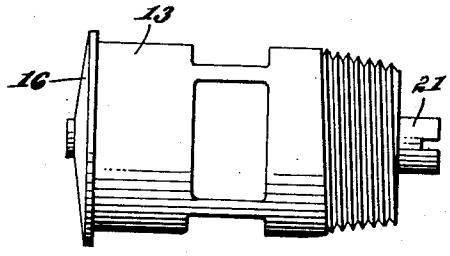


Fig. 3.

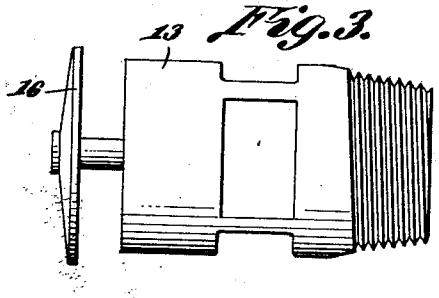


Fig. 4.

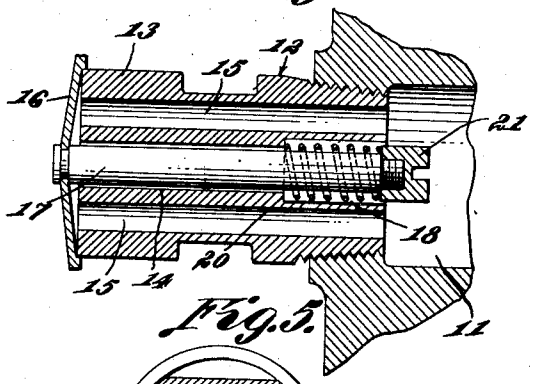
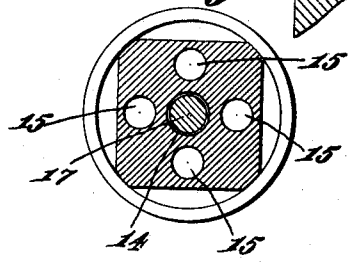


Fig. 5.



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UNITED STATES PATENT OFFICE

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TRIPLE VALVE PROTECTOR

Application filed October 31, 1930, Serial No. 492,581, and in Cuba July 15, 1930.

This invention relates generally to air brake mechanisms for railway cars, and has particular relation to means for protecting the triple valve.

An object of the present invention is to provide a protecting device which may be secured to the triple valve to normally close the exhaust port so as to exclude all foreign matter, such as dirt, insects, etc., (the latter being especially prevalent in tropical and semi-tropical countries) yet allow for free opening of the exhaust port for the passage of air.

Another object of the invention is the provision of a device of the above character, which is simple and economical in construction, reliable and efficient in use, and may be readly attached.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is a fragmentary elevation showing a portion of a triple valve with the invention applied.

Figure 2 is an elevation of the invention per se.

Figure 3 is a similar view with the valve member or cap open.

Figure 4 is a longitudinal sectional view illustrating the manner of attaching the protector.

Figure 5 is a section on the line 5—5 of Figure 2.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates a portion of the casing of a triple valve such as is used in the air brake systems of railway cars. This valve casing is provided with an exhaust port 11, which is open to the atmosphere and through which dirt, dust and insects may pass into the valve casing and interfere with the proper operation of the valve.

The present invention overcomes this and other disadvantages by providing a protector for the exhaust port. This protector is in the nature of an auxiliary valve 12 which includes a casing 13 having a central longitudinal opening 14 extending therethrough. In addition, the casing 13 is provided with openings 15 which are arranged parallel with the opening 14 and which also extend through the casing 13. The inner ends of the openings 14 and 15 are in communication with the exhaust port 11 and their outer ends are normally closed by a valve member or cap 16. This cap is carried by a rod or stem 17 which is movable longitudinally of the central opening 14 and this opening is counterbored or enlarged as at 18 to accommodate a coiled spring 19. One end of this spring engages an annular shoulder or seat 20 at the inner end of the enlarged portion 18 of the opening 14 and the outer end of this spring bears against a cap 21 which is threadedly mounted on the end of the rod or stem 17. Normally, the parts occupy the position shown in Figure 4 of the drawings and in this position all foreign matter is prevented from entering the triple valve through the port 11. The spring 19 is of just sufficient tension to keep the valve member or cap 16 seated, so that when the triple valve is unseating, air may pass freely through the opening 15 and unseat the valve member or cap 16 so as to permit of free exhaust.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:—

1. In combination with the triple valve of an air brake apparatus, a spring influenced cap normally closing the exhaust port of the triple valve, and means to secure the spring influenced cap to the casing of the triple valve.

2. In combination with the triple valve of an air brake apparatus, a normally closed auxiliary valve carried by the triple valve and communicating with the exhaust port of the latter, said auxiliary valve comprising a casing having its inner end secured within

said exhaust port and open at its outer end, a disk normally closing the outer end of the auxiliary valve casing, and means to yieldingly hold the disk in closed position.

3. In combination with the triple valve of an air brake apparatus, a normally closed auxiliary valve carried by the triple valve, said auxiliary valve comprising a casing having a plurality of longitudinally disposed openings therethrough with their inner ends communicating with the exhaust port of the triple valve, a cap extending over the outer ends of said openings, a rod extending through one opening and having its outer end secured to the cap, and spring means to yieldingly hold the cap in position to close the opening.

In testimony whereof I affix my signature.

LINO AQUIAR Y RIVERO.