E. E. ESSEN.

FIRE CHECK VALVE.

APPLICATION FILED DEC. 2, 1916.

1,251,489.

Patented Jan. 1, 1918.

FIG. 1.

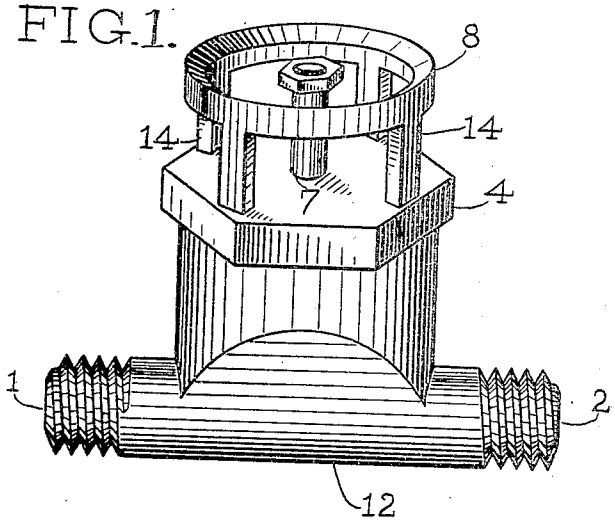
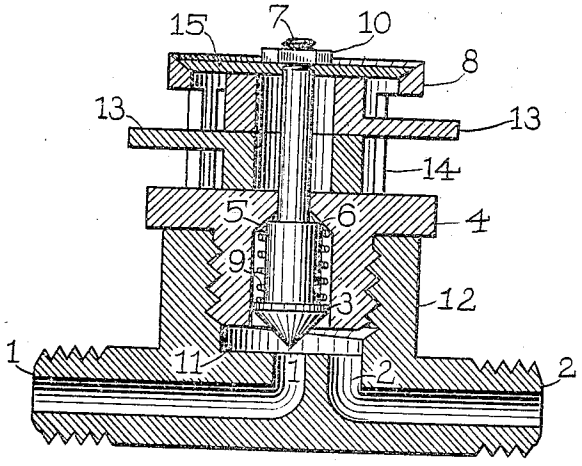


FIG. 2.



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ERIC E. ESSEN, OF BROOKLYN, NEW YORK.

FIRE-CHECK VALVE.

1,251,489. Specification of Letters Patent. Patented Jan. 1, 1918.

Application filed December 2, 1916. Serial No. 134,737.

To all whom it may concern:

Be it known that I, ERIC E. ESSEN, a citizen of the United States, residing in the city of New York, in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Fire-Check Valves, of which the following is a specification.

My invention relates to fire check valves for fuel oils and liquids, and especially to that class wherein a fusible or inflammable block or ring maintains the valve piston in open position against the tension of a spring.

The main object of this invention is to provide a check valve which cuts off the supply of oil or other liquid when the valve is enveloped in flame or heated gases.

Another object is to provide a valve which has one seat in a removable cap or plug and another in the bottom of the body of the valve.

Another object is to provide a valve which entirely cuts off all liquid fuel at the least exposure to heat and then remains thus.

Another object is to provide a valve which has all movable parts attached to the cap or plug thereof.

Further objects and advantages will become apparent as the specification proceeds.

The invention embodies the especial novel features herein described, illustrated in the drawing and pointed out in the claims.

In the drawing, like ordinals refer to the same parts.

Figure 1 is a persepctive view of a portion of the apparatus embodying my invention.

Fig. 2 is a vertical central cross-section of Fig. 1 with additional parts in normal position.

In all varieties of engines utilizing liquid fuels there is ever present the possibility of a leak or overflow of fuel and a consequent possibility of fire which may entail considerable if not an unlimited amount of destruction and loss of machinery and property. The types of engines equipped with carbureters are the principal offenders in this respect.

In the excitement caused by such a conflagration, the ordinary stop-cock at the fuel tank is either forgotten or inaccessible and all energies directed to externally quell the flames. This is always more or less tardy, ineffective and, on the whole, unsatisfactory as it does not reach the root of the trouble.

It is therefore proposed to disconnect or sever the fuel feed pipe from the carbureter and to insert in the circuit an apparatus embodying the present invention, as illustrated in the drawing. By coupling outlet 2 to the carbureter and inlet 1 to the disconnected feed pipe, the fuel will have unobstructed passage through the valve 12. The means for coupling the parts as stated are so well known in the trade as to be deemed superfluous to illustrate.

The body of the valve is noted 12 and 4 is the cap or plug therefor, bearing crown 8 supported by posts 14, 14, the outer edges of the cap being cut to proper shape for fitting a wrench thereon whereby it may be turned. Shank 7 of the valve piston is threaded and fitted with nut 10 which, when tightened upon disk 15, will tightly press shoulder 6 into seat 5. Spring 9 bears up into seat 5 and down upon head 3. The blocks or collars 13, 13 in Fig. 2 are of combustible material such as for example, celluloid, and are provided with extensions between posts 14, 14. These combustible blocks or rings 13, 13 aid crown 8 in supporting disk 15 which is preferably of fusible alloy or similar material.

It will be readily seen that if a flame or a gust of excessively hot gases should even momentarily reach any extension of rings 13, 13, the latter will ignite and quickly destroy disk 15. As this would entirely deprive nut 10 of all support, spring 9 would immediately force head 3 into seat 1, in chamber 11, completely cutting off the fuel, thus arresting all further progress or even continuation of the fire.

The purpose of crown 8 is that of supporting disks or similar parts, but is not necessarily a continuous ring, nor is the presence of any part of it essential. If the part to be suspended is simply made stronger it may rest directly upon posts 14, 14, or similar supports. Crown 8 is otherwise, also intended to shield 15 from violence or mechanical contact.

Figs. 1 and 2 illustrate the preferred form of my invention and tallies with my model, but as it is obvious that various modifications and alterations are possible, I reserve all rights to make any or all such changes as are commensurate and compatible with the scope of the invention.

Having thus fully described my invention, I desire to obtain by Letters Patent:

1. A valve including a casing and a cap

therefor, a valve piston in said casing having a shank extending through said cap, a fusible disk supported upon said cap retaining said valve piston in open position and combustible material beneath said disk as auxiliary support and to fuse the same.

2. In a valve, a casing provided with posts upon its exterior, a valve piston having a shank mounted in said casing, a fusible bridge between said posts and shank normally retaining said valve piston in open position, and means for fusing said bridge comprising inflammable blocks arranged about said shank.

3. In a valve, a casing provided with posts upon its exterior, a valve piston having a shank mounted in said casing, a fusible bridge between said posts and shank normally retaining said valve in open position, and means for fusing said bridge comprising inflammable collars arranged about said shank, and extensions upon said collars projecting outwardly between said posts.

In testimony whereof I affix my signature in the presence of two witnesses.

ERIC E. ESSEN.

Witnesses:
C. F. WM. FORSSBERG,
VICTOR H. JACOBSEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."