May 8, 1928. 1,668,940

G. W. BURKE, JR

FIRE EXTINGUISHER

Filed March 29, 1923

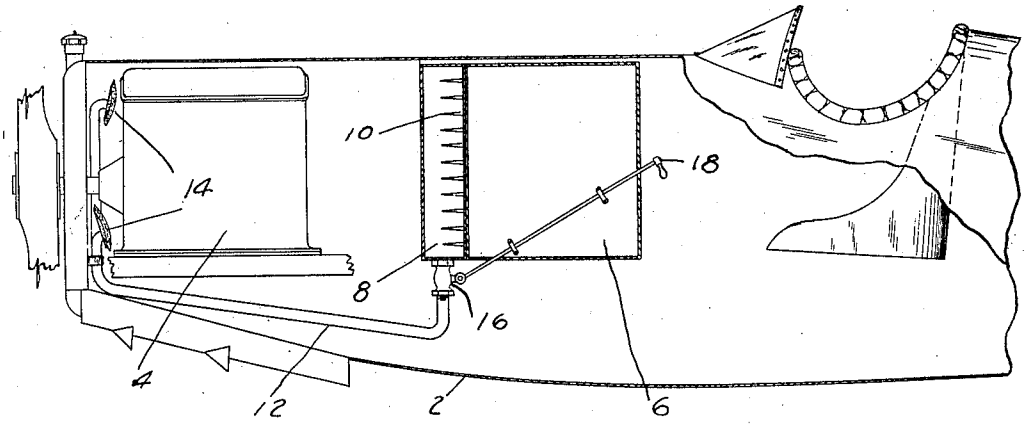



Fig. 1.

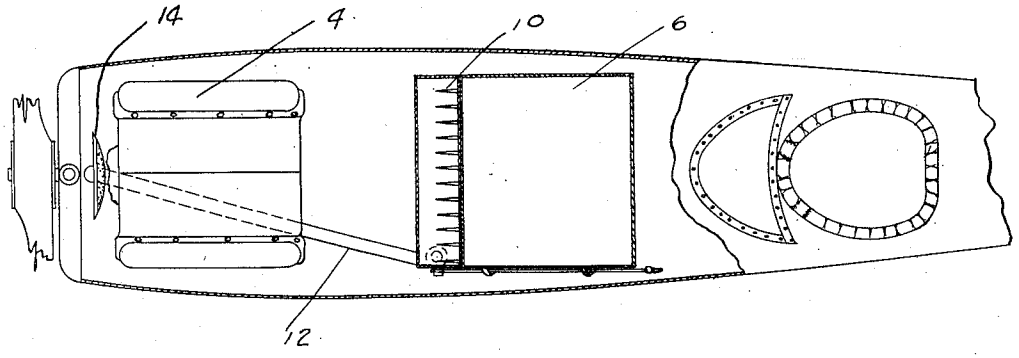



Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## FIRE EXTINGUISHER.

Application filed March 29, 1923. Serial No. 628,489.

This invention relates to fire extinguishing and preventing means and more particularly to a tank of fire extinguishing fluid placed to the immediate rear of the engine of aircraft.

I have shown a similar bulkhead in my copending application Ser. #587,832, filed September 12, 1922, now Patent 1,514,428, of which this application covers a modification.

It is the object of this invention to provide means that will tend to prevent conflagrations in the event of a head-on crash of aircraft. In this connection it is contemplated that should fire ensue from such a crash, the tank containing the extinguishing fluid will burst, due to its low factor of safety, and will envelope the structure forward of the tank with a blanket of extinguishing fluid such as carbon tetrachloride.

Further objects will become apparent as the description of the drawing proceeds and from the claims.

In the drawing:—

Fig. 1 is a side sectional elevation of the forward part of an airplane showing the tank installation.

Fig. 2 is a top plan view of the same.

Referring to the drawing in the forward part of the fuselage 2 of an airplane (shown only by way of illustration) is located an engine 4 (diagrammatic), to the rear of which may be placed a gasoline or other fuel tank 6. Between the fuel tank 6 and the engine 4, I place a tank 8 which may contain any suitable fire extinguishing or smothering fluid or mixture. The tank 8 is purposely constructed of light material with a low factor of safety by comparison with the fuel tank 6 and is adapted to cushion the impact of the fuel tank 6 in case of a nose crash. In order to ensure the breaking of tank 8 on impact sufficient to burst tank 6, I provide the fuel tank side of the tank 8 with a number of spikes or other puncturing means 10 located within said tank 8 and directed toward the opposite wall of said tank. In the event of a crash these spikes 10 will ensure a positive series of holes being punched in the engine side of the tank 8.

In order to extinguish small fires which might arise during flying, I provide a pipe system 12 from the tank 8 to the forward part of the engine where a spray nozzle 14 is connected and where the slip stream or any air stream may aid in carrying the fire extinguishing fluid over the engine to extinguish the flame. A valve 16 which may be operated by a lever 18 is provided if desired.

What I claim is:—

1. In a combination of internal combustion engine and fuel tank, a tank containing a fire extinguishing mixture between said engine and fuel tank and directly adjacent said fuel tank and means for piercing the walls of said second tank upon impact of said second tank with said engine.

2. In a fire prevention system for an internal combustion engine, a fuel tank adjacent said engine, a fire extinguishing fluid tank between said fuel tank and said engine and directly adjacent said fuel tank and means for positively bursting said extinguishing tank on impact with said engine as and for the purpose described.

3. In a combination of internal combustion engine and fuel tank, a tank containing a fire extinguishing mixture directly adjacent to said fuel tank and between said fuel tank and said engine and means within said second tank to rupture the same upon impact with said engine.

In testimony whereof I affix my signature.

GEORGE W. BURKE, JR.