May 26, 1925. 1,538,968

G. W. BURKE, JR

FIRE EXTINGUISHER

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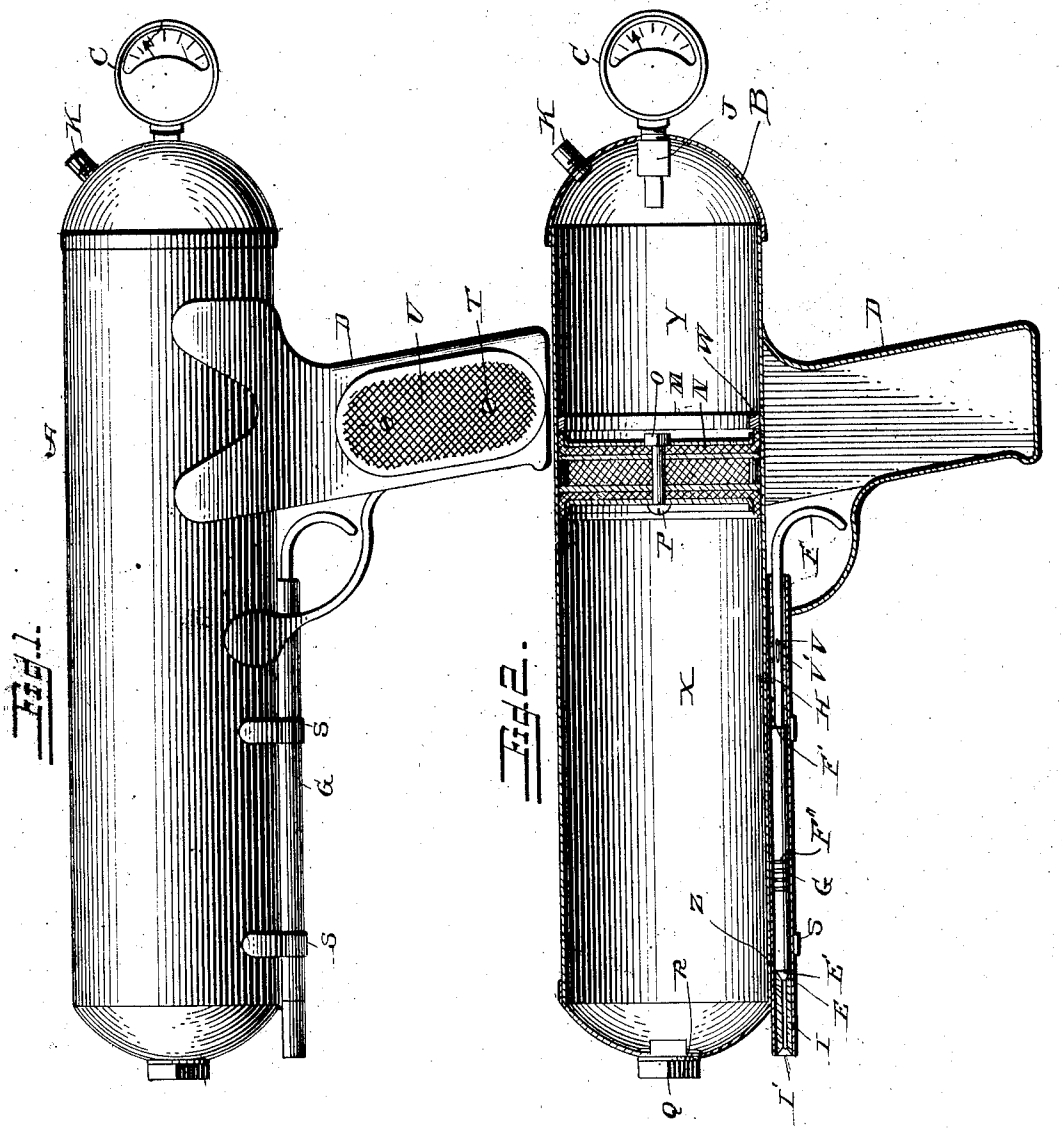


Fig. 1.

Fig. 2.

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GEORGE W. BURKE, JR., OF DAYTON, OHIO.

FIRE EXTINGUISHER.

Application filed December 3, 1920. Serial No. 428,006.

To all whom it may concern:

Be it known that I, GEORGE W. BURKE, Jr., a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Fire Extinguishers, of which the following is a specification.

This invention relates to fire extinguishers in general, and more particularly to a device of this class adapted for use in aircraft and so constructed as to be operable by one hand.

The operation of the present type of fire extinguisher used in aircraft is usually effected by pumping the fire extinguishing fluid by hand. This necessitates the use of both hands, one to hold the container and the other to manipulate the pump. Other known types of fire extinguisher now in general use are operated by fluid pressure, instead of a manual pump. This type, however, is generally bulky in size and compels the use of both hands to operate the pressure releasing means, to hold the container, and to direct the discharge nozzle.

In such cases of emergency as would arise from a fire in an aircraft when in flight, it is essential to have a fire extinguisher operable with the greatest ease and the least interference to the pilot in the navigation of the aircraft. When a fire breaks out in an aircraft it is usually under conditions which require the almost undivided attention of the pilot. In combat with an enemy plane, the pilot must continue to maneuver rapidly to avoid the enemy. If the fire breaks out while the pilot is "stunting" he must right the plane, and when flying "cross country" he must maneuver toward a possible landing field. In addition to the above precautions he must put the airplane in a "side slip" to assist in blowing out the fire without permitting it to spread. Those skilled in the art may thus realize how essential it is that a fire extinguisher for aircraft shall be operable by one hand to permit free use of the other hand for the controls.

It is therefore proposed to so construct a fire extinguisher that with the use of one hand only, it may be directed at the fire and the fire extinguishing fluid discharged. It is also proposed to provide this fire extinguisher with a fluid pressure discharge means operable by a trigger releasing valve.

The at present preferred embodiment of my invention will be found in the accompanying specification and attached drawings, in which:

Fig. 1 is a side elevation of the invention;

Fig. 2 is a view in vertical longitudinal section of the fire extinguisher, showing the piston, the nozzle, and the trigger releasing means.

As shown in the drawings A represents the cylindrical container and B a cap to which is attached an air pressure gauge C provided with a bushing J. The portion Y of the container is filled with compressed air fed in through the inlet K while the portion X is filled with fire extinguishing fluid admitted through the inlet R which is closed by a screw cap Q. Intermediate the two sections X and Y is a piston comprising two heads or cups M held in place by two plates N, held together by a bolt P and nut O. A stop W is provided in the casing, spacing the piston from the pressure gauge end of the container.

Attached to the cylinder is a hand grip D so shaped that it also provides a guard for the trigger F. A wood guard U for the hand grip D may be held together by screws T. Fastened to the underneath side of the container A by means of supports S is a barrel G. Slidably fitted within the barrel G is the trigger F which is enlarged at F′ to provide a shoulder. Trigger F is also provided with a slot V′ for the reception of a trigger stop pin V attached to one end of a coil spring H which has its other end against the shoulder F′. The pin V extends through the slot V′ and is attached to the barrel G at either side, while the hole V′ allows for longitudinal play of the trigger against the action of the coiled spring H. Near the discharge end, the barrel G is provided with an insert I having an outlet passage I′ of restricted size and provided at its inner end with a counterbored bevelled valve seat E′. Fitting against this valve seat is the trigger valve F, bevelled as at E, to fit snugly thereagainst. Slightly to the rear of the valve seat E′, is an aperture Z, adapted to provide a passage-way from the container to the nozzled outlet I, when the trigger F is retracted. Grooves F″ are provided to prevent the escape of fluid along the barrel G when the outlet Z is closed.

After filling the portion X of the container with fire extinguishing fluid and the

portion Y with compressed air, the device is in readiness for use. To operate the device it is only necessary to point the container in the proper direction and pull the trigger F. This operation may be easily accomplished with one hand. It will be readily seen that by this construction is provided a fire extinguisher which is light in weight, is simple as to mechanism, is air-tight and leak-proof, may be held and operated by one hand, being pointed as easily as a firearm directly at the fire. Thus a pilot could operate the device with one hand while piloting the ship with the other.

Having thus described my invention in connection as particularly adapted for use in an aircraft, I do not, however, limit myself to such restricted use as various obvious modifications and uses of the present embodiment might be made easily within the scope of the appended claims.

I claim:

1. A fire extinguisher comprising a horizontal fluid container of general cylindrical shape, a pistol grip attached thereto at a point inward of the ends thereof, the length of said container being substantially equal to the length of the fire extinguisher, a trigger located adjacent to and in front of the grip, means for causing an expelling force on the fluid in the container, and a valve beneath the forward portion of the fluid container adapted to be operated by said trigger to release the fluid in the container.

2. A fire extinguisher comprising a horizontal fluid container of general cylindrical shape, a pistol grip attached thereto at a point inward of the ends thereof, the length of said container being substantially equal to the length of the fire extinguisher, a trigger located adjacent to and in front of the grip, and a valve beneath the forward portion of the fluid container adapted to be operated by said trigger to release the fluid in the container.

3. A fire extinguisher comprising a horizontal fluid container of general cylindrical shape, a pistol grip attached thereto at a point inward of the ends thereof, the length of said container being substantially equal to the length of the fire extinguisher, a trigger located adjacent to and in front of the grip, a fluid discharge passage extending lengthwise of said container but situated exteriorly thereof, and entirely beneath the forward portion of the container, said fluid passage communicating with said container by means of a lateral port, and a hand trigger operable valve for controlling the flow of fluid through said port.

4. A fire extinguisher comprising a horizontal fluid container of general cylindrical shape, a pistol grip attached thereto at a point inward of the ends thereof, the length of said container being substantially equal to the length of the fire extinguisher, a trigger located adjacent to and in front of the grip, a fluid discharge passage extending lengthwise of said container but situated exteriorly thereof, and entirely beneath the forward portion of the container, said fluid passage communicating with said container by means of a lateral port, and a hand trigger operable valve for controlling the flow of fluid through said port, the forward portion of said fluid discharge passage being substantially flush with the forward portion of said cylindrical container.

In testimony whereof I have affixed my signature.

GEORGE W. BURKE, JR.