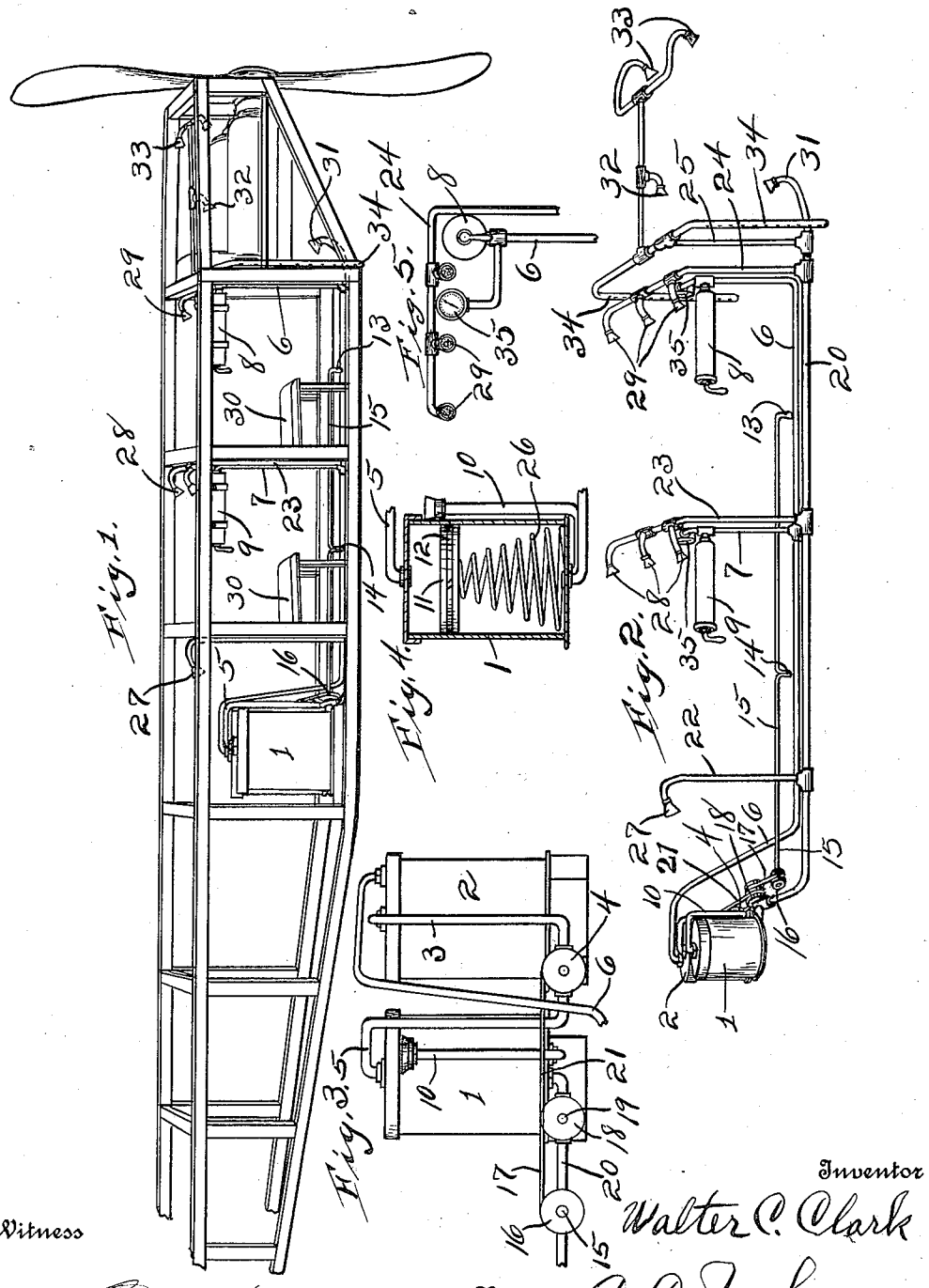
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FIRE EXTINGUISHER FOR AEROPLANES AND THE LIKE.

APPLICATION FILED JULY 15, 1919.

1,383,788. Patented July 5, 1921.



Witness

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FIRE-EXTINGUISHER FOR AEROPLANES AND THE LIKE.

1,383,788. Specification of Letters Patent. Patented July 5, 1921.

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To all whom it may concern:

Be it known that I, WALTER C. CLARK, a citizen of the United States of America, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Fire-Extinguishers for Aeroplanes and the like, of which the following is a specification.

My invention relates to fire extinguishers for use in aeroplanes, air craft of any type, flying boats, sea planes, or any boat propelled by gas or gasolene, steam, or electricity, or any other vehicle propelled by such fuel elements or electricity; and the object is to equip all such moving vehicles with apparatus and fire extinguishing means by which a fire can be quickly and easily extinguished, and another object is to provide apparatus for such purposes which will not add much weight to aeroplanes or other air craft moving in the atmosphere. Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application.

Figure 1 is a perspective view of an aeroplane body, showing the relative position of the fire-extinguishing apparatus. Fig. 2 is a diagrammatic view of the fire-extinguishing apparatus. Fig. 3 is an enlarged detail view of the tanks for carrying the fire-extinguishing means. Fig. 4 is a section of the tank for containing the fire-extinguishing material, showing the means for expelling the material. Fig. 5 is a detail view, showing a gage for showing the pressure in the air tank and the relative position of the gage to the pump.

Similar characters of reference are used to indicate the same parts throughout the several views.

The drawings show the fuselage of an aeroplane without canvas, the object being merely to show the fire-extinguishing means. A tank 1 for containing the extinguishing means is mounted just behind the rear seat in the fuselage and a companion tank 2 for containing compressed air is mounted adjacent to the tank 1. Any suitable material or chemical may be stored in the tank for extinguishing fire. Means are provided for spraying the aeroplane with the material from tank 1. The compressed air tank is connected to the tank 1 by a pipe 3 which runs down to the valve 4 and then a pipe 5 connects the valve 4 with the tank 1. A pipe 6 is connected to the tank 2 for filling the compressed air tank 2 with air. The pipe 6 connects the tank 2 with the pump 8 and a branch pipe 7 connects the pipe 6 with the pump 9. The pumps 8 and 9 may be operated by hand or other means. The tank 1 is filled with fire-extinguishing material through a filling tube 10. The material is forced out of the tank by means of compressed air acting on a plunger 11 which is provided with a suitable piston ring 12, the air coming through pipe 3, valve 4, and pipe 5 when the valve 4 is opened. The valve 4 is opened by pulling on either handle 13 or handle 14 which turns the rod 15 a quarter turn. The wheel 16 is rigid with the rod 15 and a cable 17 is mounted on the wheel 16 and on the hand-wheel 18 (which is the handle for the valve) and when the wheel 16 is turned, it turns the wheel 18 which turns the valve stem 19. This action will let the fire-extinguisher escape from the tank 1 to pass through the pipe 20. The wheel 18 is a doubled grooved wheel and a cable 21 is mounted on this wheel 18 and on the hand-wheel of valve 4 so that the compressed air is turned from the tank 2 into the tank 1 at the same time the tank 1 is opened for delivering the fire-extinguisher to the spraying nozzles. The fire-extinguisher goes through the pipe 20 to branch pipes 22, 23, 24, and 25 leading to the various nozzles. A spring 26 is provided in tank 1 for automatically elevating or forcing the piston 11 back to starting point after the air pressure is relieved. The nozzle 27 throws the fire extinguisher on the rear part of the fuselage. Nozzles 28 throw the fire-extinguisher on the pilot and inside fuselage about the rear seat. The nozzles 29 throw the fire-extinguisher on the observer and parts of the aeroplane about the front seat 30. Nozzle 31 throws the extinguisher on the bottom of the gas tank and also on the gasolene line which runs to the carbureter. Nozzle 32 throws the extinguisher on carbureter and on top and front side of the gasolene tank. Nozzles 33 throw the extinguisher on bottom side of the motor and oil pan. Perforations in the pipes 34 throw the extinguisher on the outside of the fuselage on both sides. A gage 35 is provided

for testing of the pressure so that the operator will know when he has sufficient pressure.

What I claim is,—

1. Fire-extinguishing means for aeroplanes and the like comprising a vessel containing fire-extinguishing material, a compressed air tank in operative relation to said vessel, spraying nozzles in front of different seats of the aeroplane and pipes connecting said nozzles with said vessel, means positioned in front of each seat whereby the occupant of the aeroplane can utilize the compressed air from said air tank to force the fire-extinguishing material from said vessel through said nozzles, and a manually operated pump operatively connected to said compressed air tank.

2. Fire-extinguishing means for aeroplanes comprising a vessel containing fire-extinguishing material, a compressed air tank operatively connected to said vessel, spraying nozzles positioned at different parts of the aeroplane over inflammable elements and pipes connecting said nozzles with said vessel, a valve for establishing communication of said vessel with said pipes, operating devices positioned in front of each seat whereby the occupant of the aeroplane can utilize the compressed air in said air tank for forcing the fire-extinguishing means from said vessel through said pipes and nozzles, and a manually operated pump operatively connected to said compressed air tank.

3. Fire-extinguishing means for aeroplanes comprising a vessel containing fire-extinguishing material, nozzles distributed and positioned at different parts of the aeroplane and operatively connected with said vessel, and means located in front of each seat and operatively connected with said vessel for forcing the material from said vessel through said nozzles.

4. Fire-extinguishing means for aeroplanes comprising a vessel containing fire-extinguishing material, a compressed air tank, a pipe provided with a valve and connected with said vessel and with said air tank, a plunger in said vessel, a pipe connected to said vessel and provided with a valve, branch pipes connected to the latter pipe and extended to different parts of the aeroplane, nozzles connected to said branch pipes and located over inflammable elements, means for opening said valves simultaneously for turning air on said plunger for forcing the fire-extinguishing material from said vessel, and a spring in said vessel for restoring said plunger to normal position.

In testimony whereof I set my hand this 2nd day of July, A. D. 1919.

WALTER C. CLARK.