W. F. MERRYMAN.

AIR ACCUMULATOR.

APPLICATION FILED NOV. 19, 1907.

916,886. Patented Mar. 30, 1909



Fig. 1.

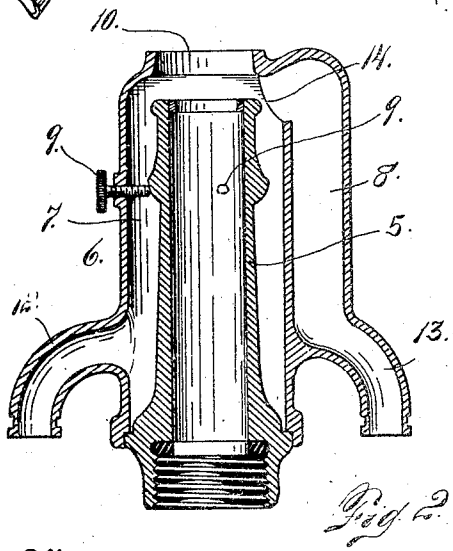


Fig. 2.

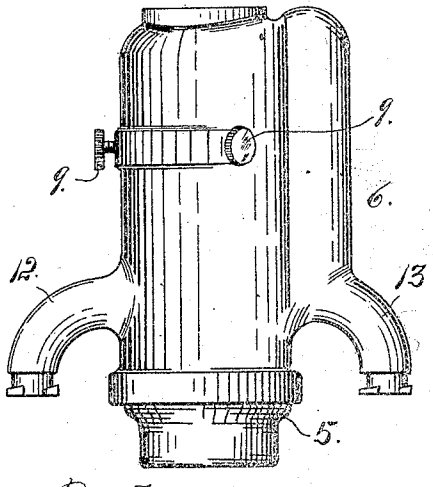


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM FRANCIS MERRYMAN, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO HENRY R. WOLCOTT, OF DENVER, COLORADO.

AIR-ACCUMULATOR.

No. 916,886. Specification of Letters Patent. Patented March 30, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM FRANCIS MERRYMAN, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Air-Accumulators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in air accumulators or devices for accumulating the air passing with a stream of water or other liquid through a nozzle or pipe or conduit of any kind.

The device is more especially adapted for use in connection with the nozzles of fire hose, in order to enable a fireman to wear a mask adapted to exclude smoke and gases to which firemen are subject in entering burning buildings. This air accumulator is mounted upon the hose nozzle and projects slightly beyond the discharge end thereof. As the water leaves the discharge extremity of the nozzle it expands and the air contained therein accumulates in my improved device and may be utilized by the fireman wearing the mask for breathing purposes.

My improved air accumulator is considerably larger than the hose nozzle, the latter being centered therein leaving a chamber around the nozzle with which the exhaust tube is connected. Outside of the main chamber, is an air chamber separated from the main chamber except at the forward extremity of the device or where the water leaves the nozzle where an opening is provided to allow the air to enter the auxiliary chamber.

Having briefly outlined my improved construction, I will proceed to describe the same in detail reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a perspective view showing my improved device in use. Fig. 2 is a detail view showing the device in longitudinal section, and on a larger scale. Fig. 3 is a side elevation of the same.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the nozzle through which the water may pass. Mounted upon this nozzle is the air accumulator 6 having a main chamber 7 and an auxiliary chamber 8. The nozzle is centered in the chamber 7 by means of centering screws 9. The air accumulator is provided with an opening 10 directly in front of the discharge opening of the nozzle but removed a short distance therefrom. The rear portion of the accumulator or that remote from the discharge extremity of the nozzle, is provided with two nipples 12 and 13, one communicating with the chamber 7 and the other with the auxiliary chamber 8. The auxiliary chamber 8 communicates with the main chamber 7 at its forward extremity by means of an opening 14.

When the device is in use, tubes 15 and 16 are connected at one extremity with the nipples 12 and 13 respectively, while their opposite extremities lead to a mask 17 worn by the user of the device (see Fig. 1). This mask fits the face so closely as to exclude the surrounding atmosphere as well as smoke and noxious gases of any kind with which the air may be laden. By means of the tubes 15 and 16, fresh air is supplied to the operator and the exhaust air removed.

It is evident that my improved device may be advantageously employed wherever it may be properly connected with the nozzle or other device or pipe through which water or other liquid is passing, since liquid issuing from a pipe or nozzle under pressure, releases a considerable quantity of air at the issuing extremity of the discharge pipe or nozzle, and this air by means of my accumulator, may be utilized in a true state since the discharge of water from the forward extremity of the accumulator prevents smoke or noxious gases from entering the accumulator and mingling with the air.

Having thus described my invention, what I claim is:

1. The combination with a nozzle of an air accumulator comprising a casing surrounding the nozzle whereby an air chamber around the nozzle and within the casing is formed, the casing being also provided with an auxiliary air chamber whose body portion is separated from the main air chamber but

whose forward extremity is in communication with the main chamber, and tubes respectively connected with the main and auxiliary chambers, whereby fresh air is supplied to the operator and the exhaust air removed.

2. The combination with a hose nozzle, of an air accumulator comprising a casing mounted upon the nozzle and provided with a main air chamber and an auxiliary air chamber, the latter being separated from the main chamber by a partition, the forward extremity of the auxiliary chamber being in communication with the main chamber, the rear extremities of the chambers having openings, tubes connected with the said openings, and a mask with which the opposite extremities of the tubes are connected, the forward extremity of the casing having an opening in line with the discharge extremity of the nozzle.

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

WILLIAM FRANCIS MERRYMAN.

Witnesses:
DENA NELSON,
JESSIE HOBART.