

Aug. 15, 1933.

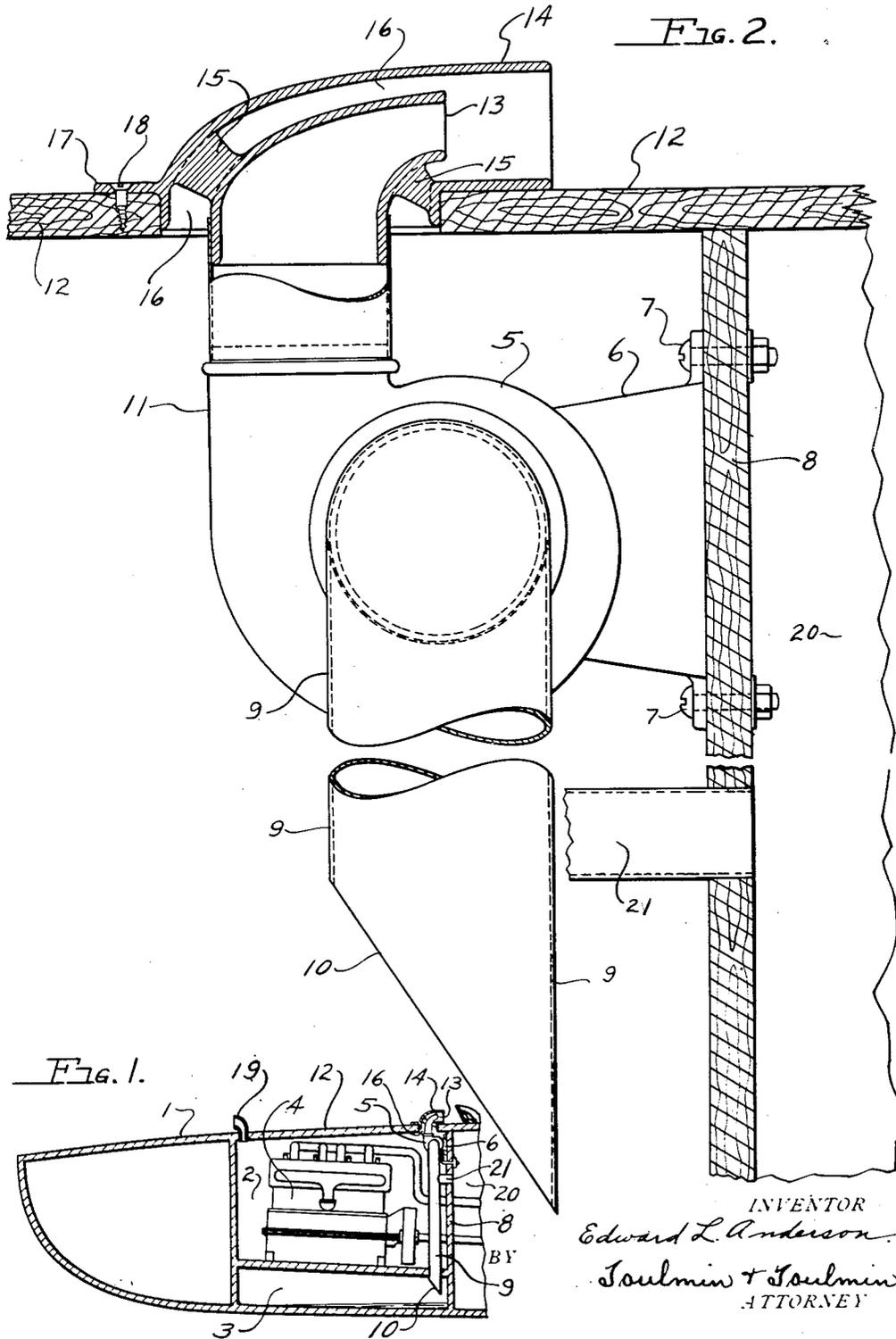
E. L. ANDERSON

1,922,070

FAN INJECTOR

Filed Nov. 10, 1930

2 Sheets-Sheet 1



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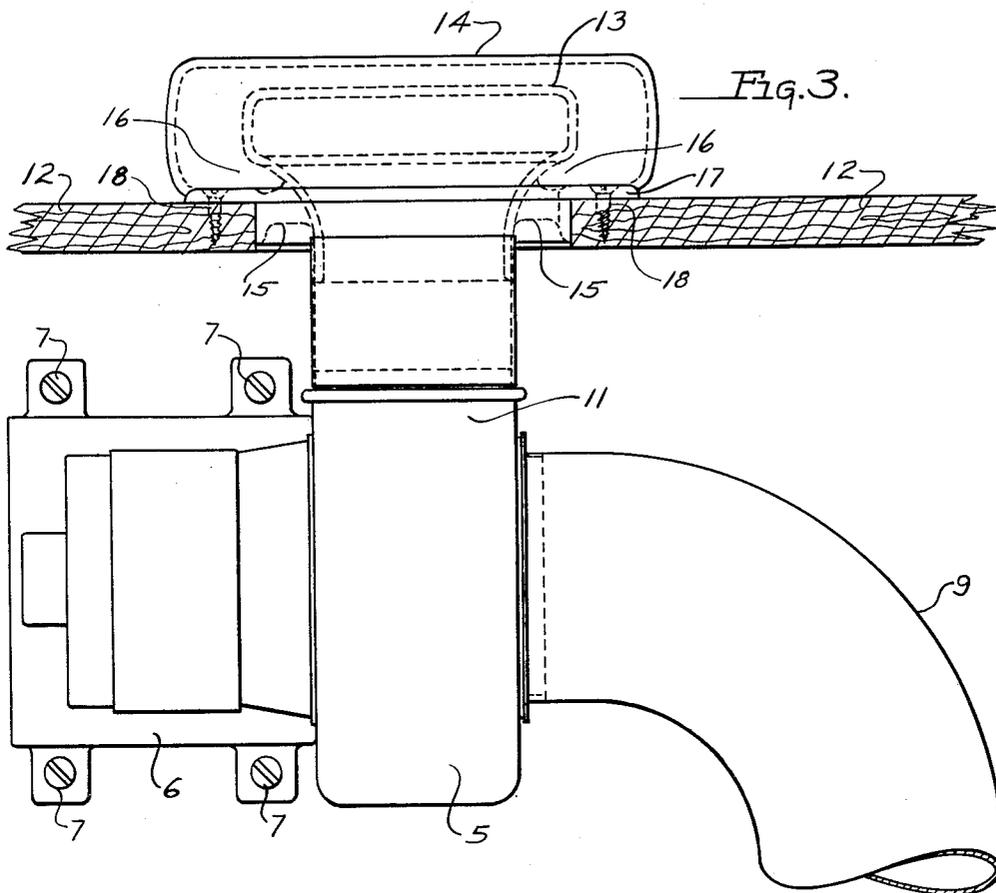


Fig. 3.

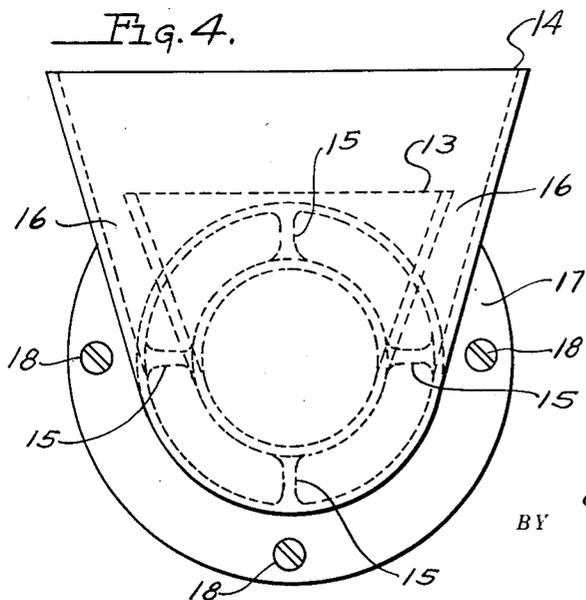
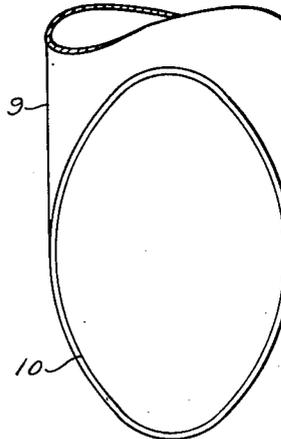


Fig. 4.



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FAN INJECTOR

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Application November 10, 1930
Serial No. 494,580

7 Claims. (Cl. 98—43)

This invention relates to improvements in means for removing air from chambers and other inclosures.

It is also an object of this invention to provide, in connection with means for removing air from one inclosure, means operated by the air being removed to remove air from another chamber.

It is also an object of this invention to provide, in connection with means for removing air from chambers and compartments, means for admitting fresh air thereto to take the place of the removed stale or impure air.

It is another object of this invention to provide, in connection with ventilating means, a double spout nozzle adapted to be connected to a fan so that the ejected air passing through one part of the nozzle will draw air through another part of the nozzle from a separate compartment from that forced through the first nozzle.

While this invention is particularly adapted for use on boats it may be equally well used in connection with stationary buildings, for removing stale and impure air from various compartments.

These and other advantages will appear from the following description taken in connection with the accompanying drawings.

Referring to the drawings:

Figure 1 is a vertical longitudinal section through one part of a boat, showing applicant's invention applied thereto for ventilating purposes.

Figure 2 is a side elevation of applicant's fan injector and ventilator, showing in section the injector nozzle.

Figure 3 is a side elevation of the fan injector or ventilating apparatus with the inlet spout partly cut away.

Figure 4 is a top plan view of the injector attachment.

In Figure 1 applicant's invention is applied to a boat, indicated by the numeral 1. In this boat are shown compartments or chambers 2 and 3, one being above the other. In the upper compartment is located the motor 4 for propelling the boat. Beneath compartment 2, with the motor therein, is compartment 3, into which extends one end of an intake spout 10.

For removing the air from the various compartments there is provided a fan casing 5, with a suitable fan located therein but not shown. This fan is supported by means of a bracket 6 and screws 7 on a partition wall 8. This partition wall separates the chambers 2 and 3 from an adjacent chamber 20. Extending downwardly from the fan casing is an intake spout 9. As

shown in Figure 1 the casing is located on the upper end of the wall 8 in the motor chamber 2, with the intake spout 9 extending down into the lower chamber or compartment 3.

The lower end of the intake spout is cut at a slant, indicated by the numeral 10, so that the fetid, stale and impure air found in the chamber or compartment 3 may be readily drawn into the intake spout for being forced out through the outlet spout 11.

The overhead covering of the compartment 2 is indicated by the numeral 12. This may be merely an overhead ceiling for the compartment 2 or it may be a floor supporting any structure above the compartments 2 and 3 and any adjacent compartments. In this overhead floor or ceiling is an opening which receives a projection on a compound spout and injector mechanism. The inner part of this compound spout and injector is indicated by the numeral 13 and constitutes a spout or nozzle attached to the outlet 11. This spout 13 is flat and broad, as indicated in Figure 4.

Around the spout 13 is a similarly shaped outer spout member 14, which extends outwardly beyond the outer end of the inner spout 13. These two spout members are held together by means of stays 15. These two spout members and the intervening stays are cast together so that this whole structure constitutes a single piece. Between the two spout members 13 and 14 is a passageway 16. This passageway opens into the upper chamber 2 so that whenever the air from the lower chamber 3 is drawn up through the intake spout 9 and forced out through the outlet 11, air is drawn by injector action from chamber 2 out through the nozzle or spout 14, so that one operation of the fan tends to draw by fan operation the stale air from compartment 3, and draw by injector action the stale air from compartment 2.

Extending around the injector member is a flange 17 which is attached to the floor 12 by means of screws 18. This member so engages the floor 12 that there is an air-tight closure so that any air passing from the chamber 2 passes out through the outlet 14. In order to provide for fresh air when the stale air is being withdrawn from chamber 2, an inlet ventilator 19 is provided in the floor 12. While this ventilator is shown located in the floor 12 it may be located at other suitable positions to collect fresh air from the wind or movement of the vehicle.

As thus far described applicant's ventilating apparatus is not only adapted to be used with

