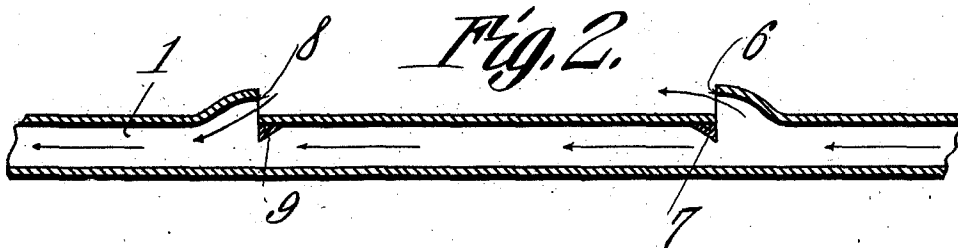
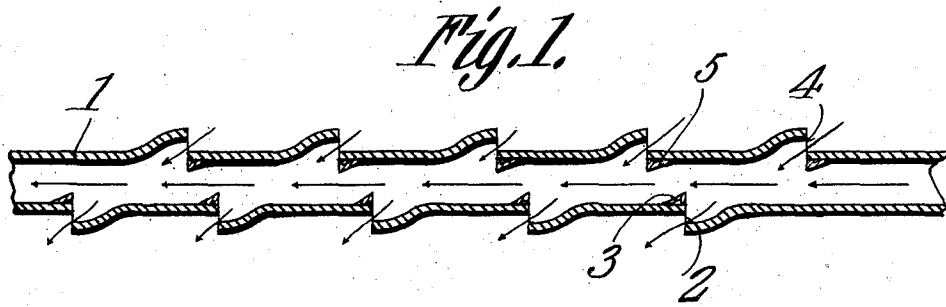


S. V. LAUGHINGHOUSE.
VENTILATING APPARATUS.
APPLICATION FILED FEB. 10, 1908.

963,590.

Patented July 5, 1910.



Witnesses
E. J. ...
C. C. Premsky

Inventor
Samuel V. Laughinghouse.

By *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL V. LAUGHINGHOUSE, OF GRIFTON, NORTH CAROLINA.

VENTILATING APPARATUS.

963,590.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed February 10, 1908. Serial No. 415,177.

To all whom it may concern:

Be it known that I, SAMUEL VINES LAUGHINGHOUSE, a citizen of the United States, residing at Grifton, in the county of Pitt and State of North Carolina, have invented a new and useful Ventilating Apparatus, of which the following is a specification.

This invention has relation to apparatus for ventilating and it consists in the novel construction and arrangement of its parts as hereinafter shown and described.

The object of the invention is to provide an apparatus which is adapted to utilize a current of air in motion for the purpose of creating a circulation or for taking up foul air and giving off fresh air.

The apparatus may be used for ventilating mines, caves or other subterranean caverns, buildings of all descriptions, ships, trains or other moving objects. In fact, it may be applied at any place or to any object where ventilation is necessary or desirable.

In the accompanying drawing: Figure 1 is a sectional view of one form of the apparatus, and Fig. 2 is a sectional view of a modified form of the apparatus.

In all of its forms the apparatus employs or utilizes a pipe 1 through which a draft of air is forced, drawn or permitted to pass.

The form of apparatus as shown in Fig. 1 is designed to be used where it is intended to give off quantities of fresh air from the draft passing through the pipe 1 at certain points and to take in corresponding quantities of foul air which occupies the space left in the pipe 1 by giving off the fresh air. With the above idea in view the pipe 1 is provided at intervals with the air outlets 2 behind which are located the abutments 3 which reduce the transverse area of the pipe 1. The pipe 1 is also provided with the foul air inlets 4 in advance of which are located the inclined abutments 5 which reduce the transverse area of the pipe 1. In this form of apparatus the air passes through the pipe 1 as indicated by the aligned arrows therein and when it comes in contact with the forward ends of the abutments 3 streams of air from the said draft are split off and passed out through the outlets 2. At the same time corresponding streams of foul air enter through the inlets 4 and are carried (practically in strata) along by the draft of air

passing through the pipe 1. Thus it will be seen that streams of fresh air or pure air are split off from the draft of air at one side of the pipe while corresponding streams of foul air are admitted at the opposite side of the pipe. This process continues until the original draft of pure air is substituted by a draft of impure air.

In the form of the apparatus as shown in Fig. 2 the draft of pure air passes through the pipe 1 and at the outlet 6 a stream is split off from the said draft and passed out of the pipe. The abutment 7 reduces the transverse area of the pipe 1 behind the outlet 6 and facilitates the lateral movement of the said stream. At the inlet 8 a stream of foul air is admitted into the draft in the pipe 1. The abutment 9 reduces the transverse area of the pipe 1 immediately in advance of the inlet 8 and as the transverse area of the pipe 1 is of normal dimension behind the inlet 8 a partial vacuum about the inlet 8 is created which causes the influx of foul air.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

An apparatus for ventilating comprising a pipe adapted to conduct a draft, said pipe having a lateral escape opening adapted to permit the escape of a portion only of the draft, and a corresponding lateral intake opening to permit the introduction of external air to commingle with the draft and take the place of that portion of the draft which is permitted to escape, and abutments which reduce the transverse sectional area of the passage through the pipe attached to the pipe at the sides of the escape and intake openings, the abutment at the intake opening being located at that side thereof toward the direction from which the draft passes and the abutment at the escape opening being located at that side thereof away from the direction through which the draft passes through the pipe.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

SAMUEL V. LAUGHINGHOUSE.

Witnesses:

R. L. JOHNSON,
M. H. McCOTTER.