

Jan. 31, 1933.

E. T. FISK

1,896,053

SOUND SUPPRESSING VENTILATOR

Filed March 19, 1930

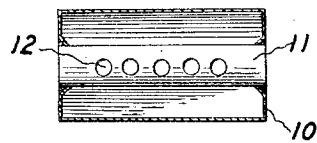
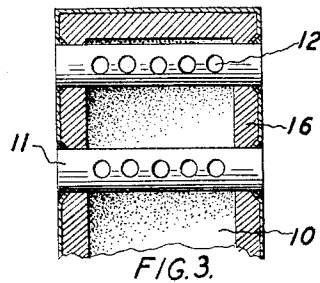


FIG. 1.

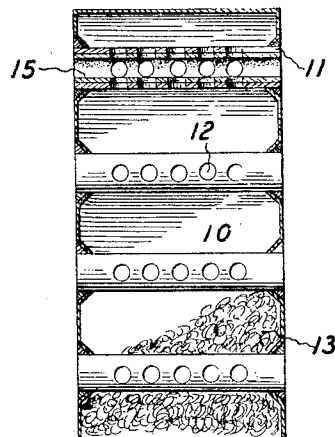


FIG. 2.

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SOUND SUPPRESSING VENTILATOR

Application filed March 19, 1930, Serial No. 437,177, and in Australia July 27, 1927.

This invention relates to means for ventilating a building or any other compartment or chamber intended for human habitation and being enclosed by walls and a roof; the means for ventilating being devised to allow the passage of ventilating currents of air while the energy of sound waves entering the same passage is reduced by absorption or dissipation.

The invention consists in its simplest form of a tube or channel open at two ends for inlet and outlet of ventilating air currents, with lateral holes in the sides of such tube or channel (hereinafter called the ventilating channel) opening into a closed chamber (hereinafter called the damping chamber).

Fig. 1 shows a ventilator comprising a damping chamber having one laterally perforated channel passing through it.

Figs. 2 and 3 show modifications in which a plurality of ventilating channels are fitted in a single damping chamber, which is lined or packed with sound absorbent material.

Ventilating air currents being substantially steady currents, will flow through the tubes or channels 11 without loss of energy other than frictional or eddy losses, but sound wave oscillations passing through the same channels 11 will be subject to considerable reduction of energy as a result of the dampening effect of the lateral openings 12.

To intensify the sound dampening effect, the dampening chamber 10 may be constructed of sound absorbent material; or it may be lined with such material as shown at 16 in Fig. 3, or packed with such material as shown at 13 in Fig. 2. The channels 11 are also preferably lined with sound absorbent material as shown at 15 in Fig. 2, or alternatively they may be constructed wholly of such material.

In one form of the invention a plurality of ventilating channels 11 are enclosed in a single damping chamber 10. In another form, only one ventilating channel is contained in the damping chamber but a plurality of such units may be assembled and built into a wall aperture to constitute a ventilating screen. The present invention is an improvement on my Patent 1,816,769, issued July 28, 1931,

which patent did not disclose the loosely packed material at 13 as disclosed in Fig. 2 of this application.

What I claim as my invention and desire to secure by Letters Patent is:—

1. As a new article of manufacture, a ventilator, comprising a sound reducing chamber having side walls, an open-ended tube traversing the chamber and having its ends fixed in the side walls of the chamber and with its ends flush with the outer faces of the side walls, said tube having openings formed therein affording communication between the chamber and tube.

2. As a new article of manufacture, a ventilator, comprising a sound absorbing chamber having side walls, sound absorbent material secured to the inner faces of its walls, open-ended tubes traversing the chamber and having their ends fixed in the walls of the chamber and in the absorption material, the ends of the tubes being flush with the outer faces of the side walls of the chamber, said tubes having openings therein affording communication between the chamber and tubes.

In testimony whereof I affix my signature.
ERNEST THOMAS FISK.