May 13, 1930. A. E. WHITTIER 1,757,987

OVEN VENTILATOR

Filed Jan. 4, 1929

Fig. 1

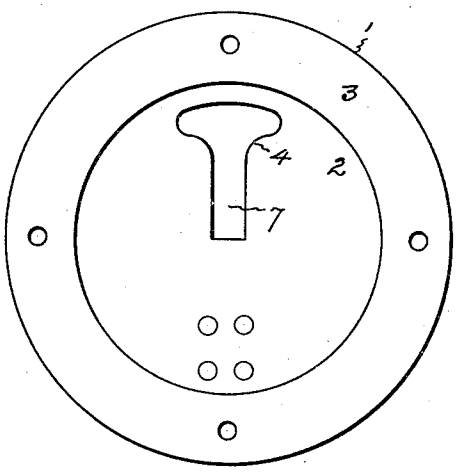


Fig. 2

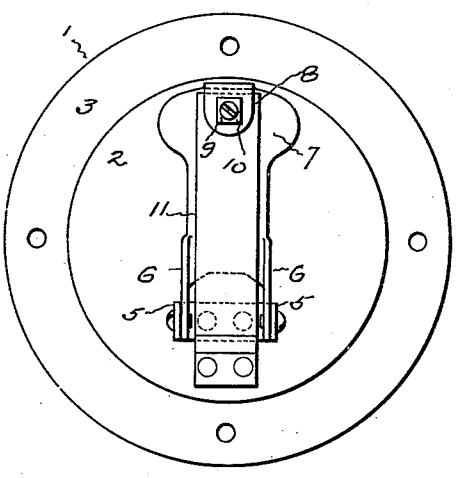


Fig. 3

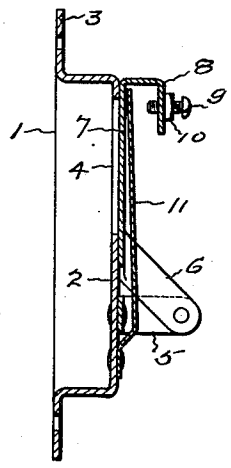
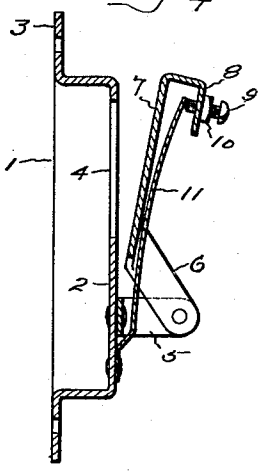


Fig. 4



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1,757,987

UNITED STATES PATENT OFFICE

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OVEN VENTILATOR

Application filed January 4, 1929. Serial No. 330,219.

This invention relates to a device which is designed to be set in the wall of a chamber that it is desired to ventilate when the temperature therein reaches a desired degree, and which is particularly adapted for baking ovens, dental furnaces, sterilizers, incubators, and the like chambers, the temperature of which it is desired to limit.

The object of the invention is to provide a ventilator for the chambers of such apparatus, which will automatically permit the escape of hot air from the chamber at a predetermined temperature in order to prevent overheating the chamber and the articles or substances therein.

The device illustrated as embodying the invention has a plate adapted to be fastened in an opening in the wall of the chamber the temperature of which it is desired to limit. Movably mounted on the interior of the plate is a shutter that normally covers a vent in the plate, but which is automatically moved by thermostatic means to uncover the vent and permit the outflow of hot air from the chamber when the temperature rises to the degree for which the parts are adjusted, and thereby prevent overheating whatever is in the chamber and eliminating the possibility of the buckling of the wall of the chamber.

Fig. 1 of the accompanying drawings is a view showing the outer face of the ventilator. Fig. 2 is a view of the inner face. Fig. 3 is a diametrical section showing the vent in the plate closed by the shutter. Fig. 4 is a similar view showing the vent uncovered by the action of the thermostatic means.

The plate 1 which forms the base of the article is desirably made circular in outline with a reentrant center 2 designed to fit the opening in the wall of the chamber, and a peripheral flange 3 adapted to be fastened to the chamber wall about the opening. A vent 4 is made in the reentrant section of the plate.

Fastened to the inner surface of the plate and extending inward therefrom are ears 5, and pivotally attached to these ears are arms 6 which extend from the edges of the shutter 7. The arms extend in such a manner and the pivotal axis is in such relation that normally gravity holds the shutter against the inner face of the plate and closes the vent, as illustrated in Fig. 3, when the article is in place of use. The free end of the shutter is bent back on itself to form a yoke 8 and this yoke carries an adjusting screw 9 provided with a lock nut 10.

A finger 11 of thermostatic metal is fastened at its lower end to the inner face of the plate so as to extend up back of the shutter and terminate at its free end in the yoke adjacent to the end of the adjusting screw carried thereby.

When the temperature in the chamber reaches the predetermined degree, the thermostatic finger warps and engages the adjusted screw so as to cause the shutter to swing away from the vent, as illustrated in Fig. 4, allowing the escape of hot air. By adjusting the screw the temperature of the chamber in the wall of which the article is fastened, may be closely regulated. When the temperature drops below the degree of temperature for which the device is adjusted, the straightening of the thermostatic finger releases the shutter and allows it by gravity to close the vent and stop the outflow of hot air.

The invention claimed is:

1. A ventilator for heated chambers which comprises a vented plate adapted to be fastened over an opening in the chamber wall, a shutter pivoted to said plate and adapted to normally swing toward the plate and close the vent therein, a thermostatic finger fixed to the plate and arranged to cause the shutter to swing away from the plate and uncover the vent, and adjustable means carried by the shutter and engaged by said finger when the temperature in the chamber reaches a predetermined degree.

2. A ventilator for heated chambers which comprises a vented plate adapted to be fastened over an opening in the chamber wall, ears extending inwardly from said plate, a shutter pivoted to said ears and adapted to normally swing toward the plate and close the vent therein, said shutter having its free end bent backward on itself to form a yoke, an adjusting screw carried by said yoke, and

a thermostatic finger fixed to the plate and arranged to engage said screw and cause the shutter to swing away from the plate and uncover the vent when the temperature in the chamber reaches a predetermined degree.

3. A ventilator for heated chambers which comprises a circular vented plate having a reentrant portion adapted to be fastened in an opening in the wall of the chamber, ears extending inwardly from said plate, a shutter pivoted to said ears and adapted to swing toward and from said plate for closing and opening the vent therein, said shutter having its free end bent backward on itself to form a yoke, an adjusting screw carried by said yoke, and a thermostatic finger fixed to the plate and extending between said ears and adapted to engage said screw and cause the shutter to uncover the vent when the temperature in the chamber reaches a predetermined degree, and permit the shutter to cover the vent when the temperature drops below a predetermined degree.

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