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## Inventions.

## A NEW VENTILATOR.

At this season of the year, when-with all the double windows up the ventilation of houses is very imperfect, compared to summer time, many double windows have only one small ventilating hole cut in the bottom of the sash, which only admits a small portion of cold air, but there is no egress for the foul air to pass off, particularly during the night, during which period these apertures have to be closed against an extreme cold atmosphere. We all know, or at least ought to know in these days of sanitary instruction, that in a close apartment the air which is continually inhaled and exhaled through the lungs and vitiated by impure matter of all kinds, becomes unfit for respiration unless it is often renewed.

Therefore it is with much pleasure that we desire to make known more generally a ventilator which is undoubtedly the best and cheapest we have seen, for it not only thoroughly ventilates a house by carrying off all the foul air, but, as a natural consequence of its perfect action, it removes smoke and all smell of cooking.

> Figure 1 represents the ventilating apparatus.

To the stove pipe A A A A is adapted a tube B D of a smaller diameter, which communicates with the interior of the room by means of the valve C.

This valve opens and closes at will by means of the cord E.

In order that foul air may escape quicker, the lower end of the tube is made in the shape of a funnel.

Fig. 1. One of the new characters of this apparatus is the bent tube B D which fills two ends. Ist. It prevents the opening in the stove pipe from acting on the drawing of the chimney. 2nd. It prevents the soot and fire from escaping through this opening.

In rooms where there are no stove pipes (and such is often the case, especially during the summer season), it is quite easy to use the same system, by means of a metallic tube placed in the ceiling and which communicates with the chimnies.

Figure 2 represents this tube which is proportioned to the size and numbers of rooms which are to be ventilated.

The main pipe A A enters in the chimney. Pipes of a smaller size are soldered to the main pipe, as indicated by the letters a b c, and ventilation is obtained in the same manner as described in figure 1.

Following the same rule, if an exhausting air apparatus in the shape of a scuttle, such as shown by the letter A in Fig. 3, is adapted to a kitchen stove pipe, the foul and unwholesome air which often fills the kitchen escapes, as for instance when accidentally or through neglect greasy substances are thrown on the stove. If this exhausting air apparatus drives off too much heat, by closing the valve B it stops all further escape of heat.

A Likewise in rooms heated by means Fig. 2. of coal stoves, which are now very much in use, the inconvenience or rather danger arising from the escape of foul air, especially when they are filled with coal, can be avoided, by adapting the exhausting air apparatus A shown in Fig. 3, but of a different shape.

This system has the great advantage of renewing the air continually and by degrees. When a room needs to be ventilated, it is the general custom to open the door or the window ventilator. Then the air rushes in from outside, and by mixing with the inner air improves the latter which assumes a higher temperature, and if the persons residing in the house are in the least state of perspiration, they are and to catch a cold, or a disease of the throat or of the lungs.



Fig. 3.

Fig. 4.

Yon's ventilator avoids these dangerous consequences. The apparatus works regularly. The impure air contained in the room escapes and at the same time fresh air from the outside is admitted inside by the door or window cracks, but in such small quantity that it is not perceptibly felt. It must be observed that when a window ventilator is opened

It must be observed that when a window ventilator is opened for the purpose of ventilating a room, the air from the outside does indeed rush in and cools the inside temperature and makes it more pleasant to breathe, but the noxious gases which are gathered near the ceiling do not escape. By using Yon's ventilator these gases are carried through the chimney as soon as they are generated.



Figure 5 shows the working of the valves, which is so plain that it needs no explanation. An examination of the figure will make it perfectly plain.

As the reader might wish to know how the exhausting tubes herein before described, are adapted to chimnies, by looking at figure 5 he will see how the apparatus for that purpose is made. It is a bent pipe of cast iron A B C, provided with a valve at the point C used for cleaning it. A is the upper end which is

the point C used for cleaning it. A is the upper end which is adapted to the chimney; C is the lower end to which is adapted the exhausting apparatus from the interior of the room.

It is needless to give further explanations concerning this system of ventilation. It is so simple that any one will understand it at first sight.

Some of the highest medical authorities in Montreal have testified as to its merits, from their personal use of the same.

For stopping holes in castings, or for covering scars, a useful cement may, it is said, be made of equal parts of gum arabic, plaster of Paris, and iron filings, and if a little finely pulverized white glass be added to the mixture, it will make it still harder. This mixture forms a very hard cement, that will resist the action of fire and water. It should be kept in its dry state and mixed with a little water when wanted for use.