

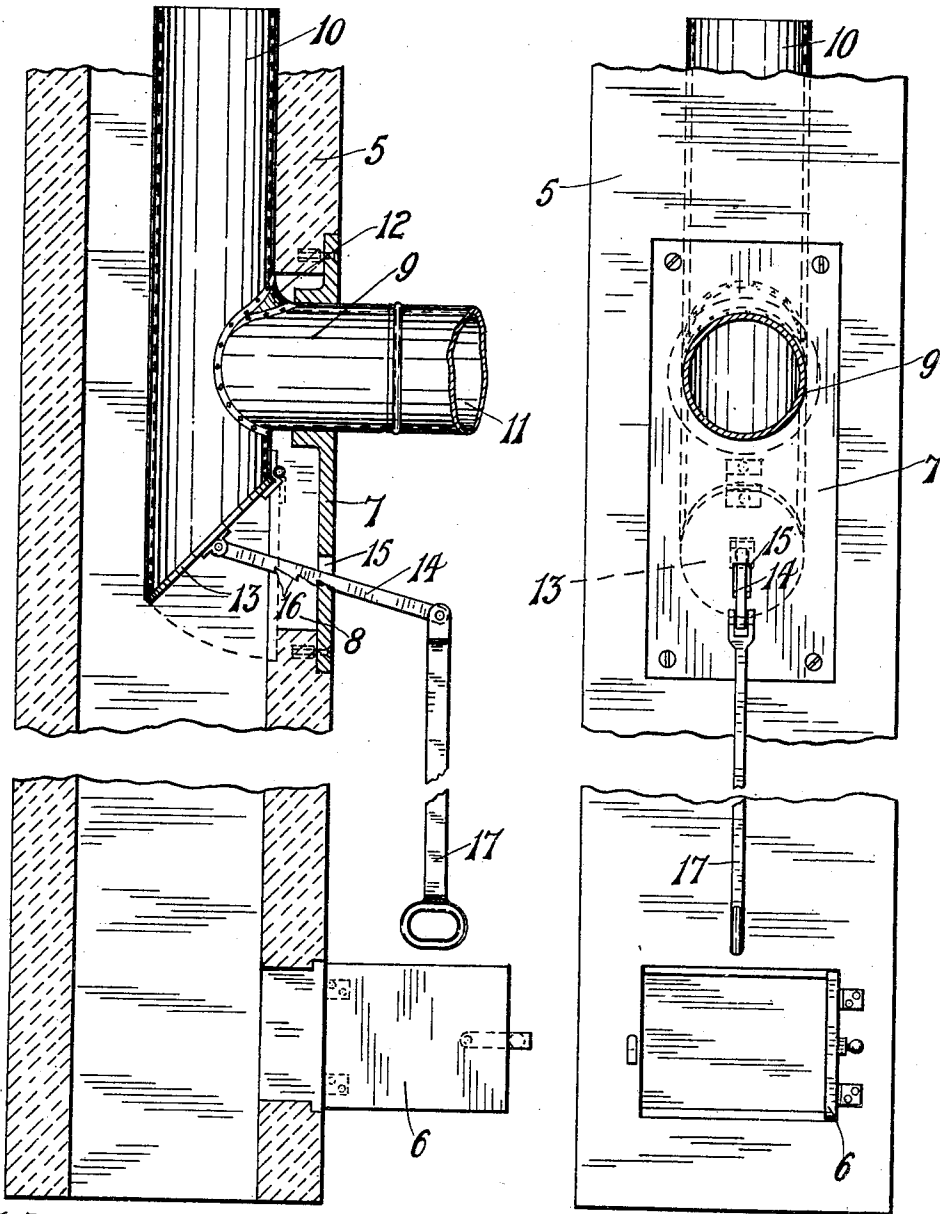
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VENTILATING SYSTEM.  
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925,099.

Patented June 15, 1909.

*Fig. 1.*

*Fig. 2.*



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ARTHUR E. HART, OF MADISON, WISCONSIN.

## VENTILATING SYSTEM.

No. 925,099.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed October 28, 1908. Serial No. 459,832.

*To all whom it may concern:*

Be it known that I, ARTHUR E. HART, residing in Madison, in the county of Dane and State of Wisconsin, have invented new and useful Improvements in Ventilating Systems, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention has for its object to provide an improved ventilating system for school rooms and the like where heating stoves are employed and the chimney is relied on for carrying off the foul air from near the floor as well as for conducting the smoke and gases from the stove.

Another object of the invention is to provide novel mechanism in such a system which will prevent the current of air in the chimney from choking off the draft on the stove.

Another object of the invention is to provide such mechanism that will automatically discharge the soot collecting therein and at the same time will serve as a check draft for regulating the draft on the stove.

With the above and other objects in view the invention consists in the ventilating system herein claimed, its parts and combinations of parts and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in the different views; Figure 1 is a sectional elevation of a chimney provided with the mechanism of the ventilating system of this invention; and, Fig. 2 is a front elevation thereof.

In these drawings 5 indicates a chimney which is provided near its lower end with a ventilating door 6 opening into the school room or other place in which ventilation is desired and being preferably located near the floor thereof. A metal plate 7 is desirably let into the wall of the chimney to cover an opening 8 thereof and serves as a collar and support for a smoke pipe joint which is of a T-shape with the stem member 9 passing through a flanged opening of the plate 7 and its cross member 10 extending vertically within the chimney. The ordinary stove pipe 11 leading from the heating stove or other burner is connected with the projecting member 9 and the smoke and gases therefrom pass up the vertical member 10 and out through the top of the chimney. The vertical member 10 of the smoke pipe connection may extend to the top of the chimney if

desired, but it is found in practice that it is only necessary that it should extend from one to two feet above the opening in the plate 7 from which point the smoke and gas commingle with the air which is passing up the chimney from the door 6.

The upward bend of the smoke pipe connection between the member 9 and the member 10 is rounded off with a curved fillet plate 12 so as to avoid the formation of a sharp edge for the smoke to pass around as this is found to be less liable to cause the choking back of the smoke and gas in event of a strong vertical draft across the end of the horizontal member 9. The lower end of the vertical member 10 is preferably cut at an angle, as shown, and a cover plate 13 is hinged at the upper edge thereof so as to swing from one position to another to close the opening more or less. A connecting rod 14 is pivotally connected to the cover plate 13 and passes through an opening 15 in the plate 7, being provided with a series of teeth 16 on its lower edge to engage with the bottom of the opening 15 to hold the cover plate 13 in its various adjusted positions. A handle rod 17 is pivoted to the outer end of the connecting rod 14 and depends therefrom to a position where it may be conveniently operated to open the cover plate for checking the draft on the stove and to close it for increasing the draft.

Whether the cover plate 13 is open or not the effect of the apparatus is to cause an up draft in the chimney which will draw the cool air from the floor of the room through the open door 6, and the current of cold air is prevented from choking off the passage of the smoke and gas by the presence of the cover plate 13 and the rounded bend of the connection between the members 9 and 10.

An advantage of the present invention is the simplicity of its construction whereby it is rendered inexpensive to construct and maintain while being durable and efficient in use. Another advantage of this construction is its ability to self cleaning, all deposits of soot and the like settling to the bottom of the vertical member 10 being discharged through the open end thereof when the cover plate 13 is swung open, the discharged material falling to the ash pit at the bottom of the chimney where it may be readily removed. Another advantage of this construction over other constructions is that which results from the member 10 being ex-

tended upward some distance from the member 9, causing the up draft of smoke and gases, to gain force before commingling with the foul air from the floor.

5 What I claim as my invention is;

1. A ventilating system, comprising a chimney, a smoke pipe connection in the chimney having a vertical member and a connecting horizontal member, the horizontal member of the smoke pipe connection passing through the wall of the chimney and adapted to have a stove pipe connected therewith, and a valve for controlling the degree of opening of the lower end of the vertical member of the smoke pipe connection, there being an opening in the wall of the chimney below the smoke pipe connection through which air may be drawn by induction.
- 20 2. A ventilating system, comprising a chimney, a smoke pipe connection in the chimney having a vertical member and a connecting horizontal member, there being a rounded bend at the upper line of connection between the horizontal member and the vertical member, the horizontal member of the smoke pipe connection passing through the wall of the chimney and adapted to have a stove pipe connected therewith, and a valve for controlling the degree of opening of the lower end of the vertical member of the smoke pipe connection, there being an opening in the wall of the chimney below the smoke pipe connection through which air may be drawn by induction.
- 35 3. A ventilating system, comprising a chimney having an opening in the wall thereof, a plate fitting over the opening of the chimney wall, a smoke pipe connection comprising a vertical member and a connecting

horizontal member within the chimney with the horizontal member passing through the plate and adapted for connection with a stove pipe, a cover plate pivotally mounted on the lower end of the vertical member of the smoke pipe connection and adapted to close the same more or less, and operating means by which the cover plate may be adjusted and locked in its adjustments, there being an opening in the wall of the chimney below the smoke pipe connection through which air may be drawn by induction.

4. A ventilating system, comprising a chimney having an opening in its wall, a plate covering the opening, a smoke pipe connection within the chimney having a vertical member and a connecting horizontal member passing through the plate and adapted for connection with a stove pipe, the lower end of the vertical member being cut at an angle, a cover plate hinged to the lower end of the vertical member of the smoke pipe connection and adapted to more or less close the same, a toothed connecting rod connected to the cover plate and passing through the plate with its teeth engaging the plate to lock the cover plate in its adjustments, and a handle rod connected with the connecting rod by means of which the cover plate may be adjusted, there being an opening in the wall of the chimney below the smoke pipe connection through which air may be drawn by induction.

In testimony whereof, I affix my signature, in presence of two witnesses.

ARTHUR E. HART.

Witnesses:

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HENRY CASSON, Jr.