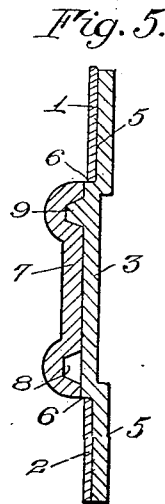
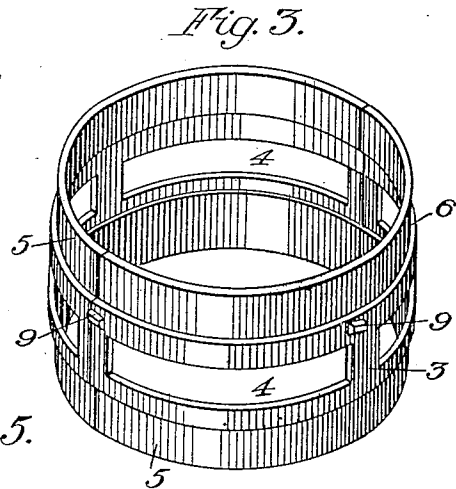
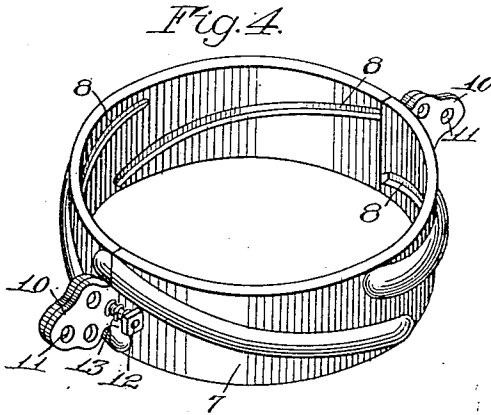
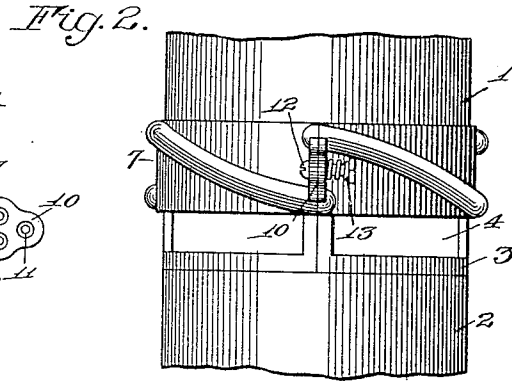
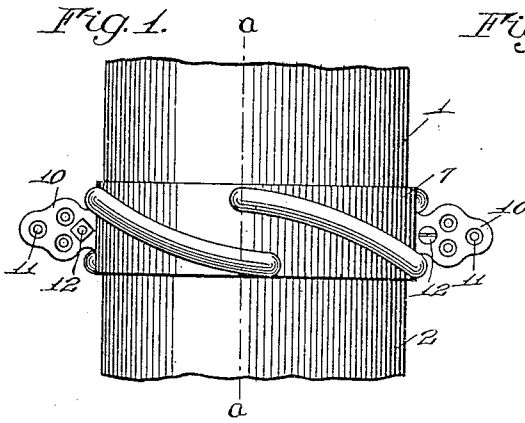


W. P. RANDALL.  
VENTILATOR AND DRAFT REGULATOR.  
APPLICATION FILED MAY 11, 1910.

1,042,600.

Patented Oct. 29, 1912.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM P. RANDALL, OF LE ROY, NEW YORK.

VENTILATOR AND DRAFT-REGULATOR.

1,042,600.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed May 11, 1910. Serial No. 560,575.

*To all whom it may concern:*

Be it known that I, WILLIAM P. RANDALL, of Le Roy, in the county of Genesee and State of New York, have invented certain new and useful Improvements in Ventilators and Draft-Regulators; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference numerals marked thereon.

The present invention relates to ventilators and draft regulators of the type in which openings are provided in the smoke pipes of heating apparatus and are controllable by suitable valves, and it has for an object to provide a construction in which the openings are substantially continuous about the pipe and are not varied in length with the adjustment of the controlling valve so that a substantially continuous ring of air is admitted to the pipe for any adjustment of the valve.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is a portion of a smoke pipe for a heating apparatus with the present improvement attached thereto, the valve being shown in closed position; Fig. 2 is a like view showing the valve in open position; Fig. 3 is a perspective view of the ring member which is interposed between two pipe sections; Fig. 4 is a perspective view of the ring valve for controlling the size of the opening of the ventilator, and Fig. 5 is a section on the line *a-a* of Fig. 1.

In the present instance the pipe formed by the sections 1 and 2 and the ring member 3 is provided with one or more openings 4, these openings, in this instance being formed in the ring member 3 and being substantially continuous about the pipe so that a substantially continuous body of air in ring or hollow cylinder form is admitted to the piping. In this instance, the ring member comprises two segmental sections which may have reduced portions 5 at opposite ends in order to fit within the end of the pipe sections 1 and 2, shoulders 6 being formed at the ends of the reduced portions

and serving to limit the movement of the pipe sections on the ring member.

The openings 4 are controlled by a valve 7 which in this instance is of ring formation and surrounds the ring member 3. This valve has a movement longitudinally of the axis of the ring member in order that when it is actuated it will move to open and close the openings 4 without varying the length of said openings so that the continuity of the ring or cylinder of air is not broken with the adjustment of the valve. The longitudinal movement is, in this instance, effected by the provision of helically formed guides 8 preferably on the ring valve 7, the latter for this purpose being provided with internal grooves receiving projections 9 extending from the ring member 3. It is apparent, that, when the ring valve 7 is rotated, movement thereof in the direction of the axis of the ring member 3 will take place, thus varying the size of the openings 4 without varying their lengths in the direction of the circumference of the pipe.

It is desirable, in order that the ring valve may fit tightly to the ring member 3, that the ring valve be made so that it will expand and contract thus maintaining a tight joint notwithstanding the different changes in temperature. This result is accomplished in this instance by forming the ring member of two segmental sections, the abutting ends of the sections being provided with outwardly extending lugs 10 having registering openings 11 through which are passed bolts 12, the latter being surrounded by springs 13 which effect a resilient connection between the sections of the ring valve. The lugs 10 also serve as finger pieces for rotating the valve and the openings 14 permit the lug to cool quickly.

The operation of the device will be apparent from the foregoing, but it may be summarized as follows: The ring member 3 is introduced between two pipe sections in the smoke pipe of a heating apparatus, such for instance as a kitchen range, when the ring valve may be positioned to obtain the desired flow through the openings 4, the flow always taking place in a substantially continuous ring.

The device not only ventilates the room in which the heating appliance is located, by carrying off bad odors, owing to the passage of heated air of the room through the pipe

and the flue to the outside air, but the air thus carried off tends to prevent precipitation within the pipe because of the absorption of the saturated products from combustion, thereby preventing the formation of incrustation on the inner surface of the pipe sections and adding to the life of the latter.

I claim as my invention:

1. A room ventilator and draft regulator for the smoke pipe of heating apparatus comprising a ring member having provision for the entrance of air to the pipe, a ring valve for controlling the said air, and a guide between the member and the valve arranged to cause the valve to move longitudinally of the axis of the ring member when the valve is rotated.

2. A room ventilator and draft regulator for the smoke pipe of heating apparatus comprising a ring member having provision for the entrance of air to the pipe, a ring valve for controlling the entrance of air, a helical guide on one of said parts, and a device for coöperation with the guide so that when the valve is rotated it will be moved longitudinally of the ring member.

3. The combination with a ring member having provision for admitting air to the pipe, of a ring valve surrounding the openings and formed of two sections, each of which is provided with outwardly extending lugs and resilient means connecting said lugs.

4. The combination with a ring member provided with an opening and having pro-

vision on opposite sides of the opening for connecting with two pipe sections and a ring valve movable on the ring member in the direction of the axis of the latter to control the size of the opening.

5. The combination with a ring member having an opening and provision on opposite sides of the opening for connecting with two pipe sections, a ring valve and helically formed guides on one of said parts causing the valve to move in the direction of the axis of the ring member to control the size of the opening when said valve is rotated.

6. The combination with a ring member having openings formed therein, of a ring valve surrounding the ring member, movable to control the flow of air through the openings and provided with helically formed internally arranged grooves, and projections on the ring member operating in said grooves.

7. The combination with a ring member provided with openings and reduced portions on opposite sides of the openings, of a ring valve surrounding the ring member and provided with internal and helically formed grooves, and projections on the ring member operating in the grooves to cause the ring valve to move longitudinally of its axis when rotated on the ring member.

WILLIAM P. RANDALL.

Witnesses:

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