

(No Model.)

T. R. HARPER.
VENTILATOR.

No. 587,259.

Patented July 27, 1897.

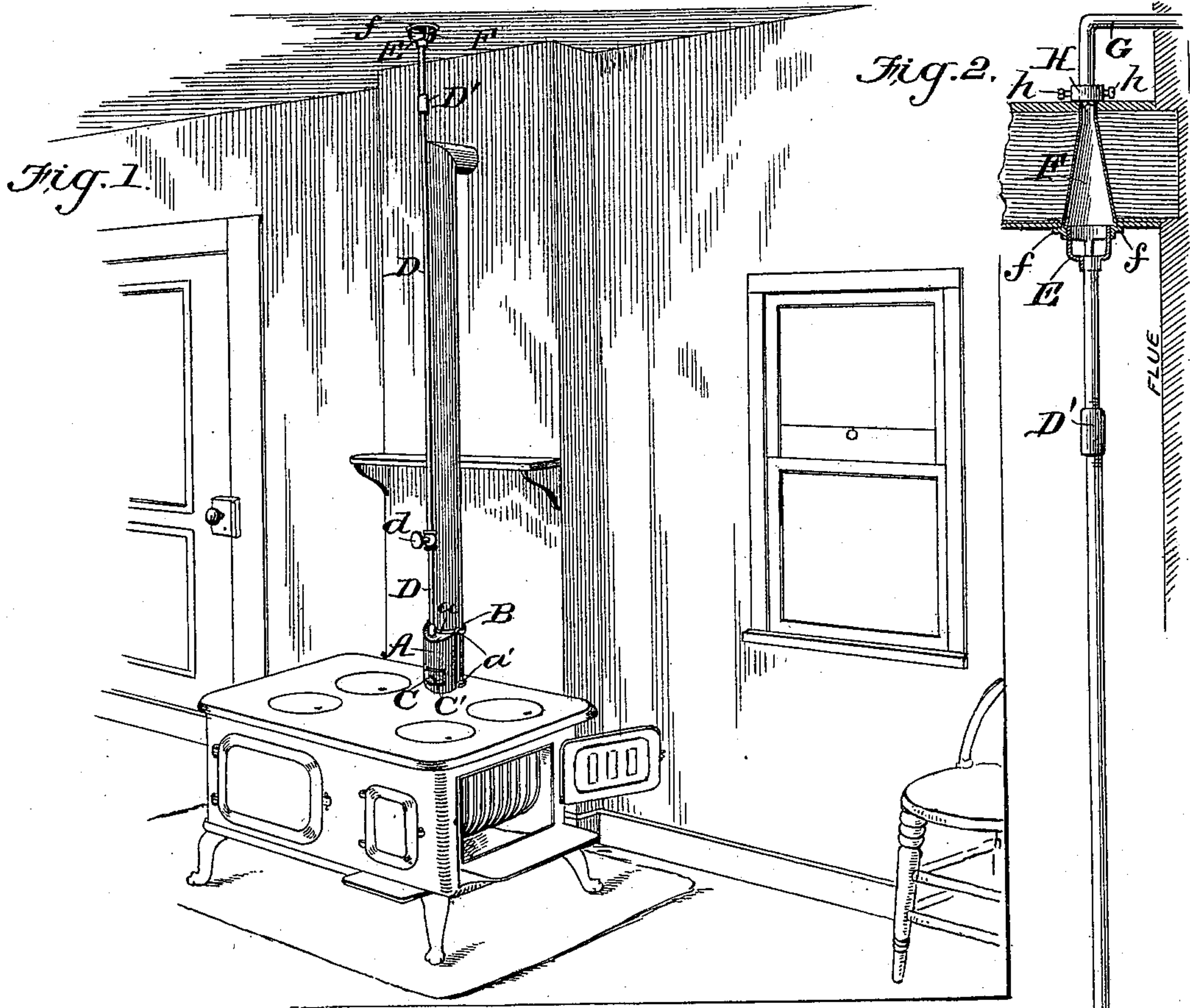


Fig. 3.

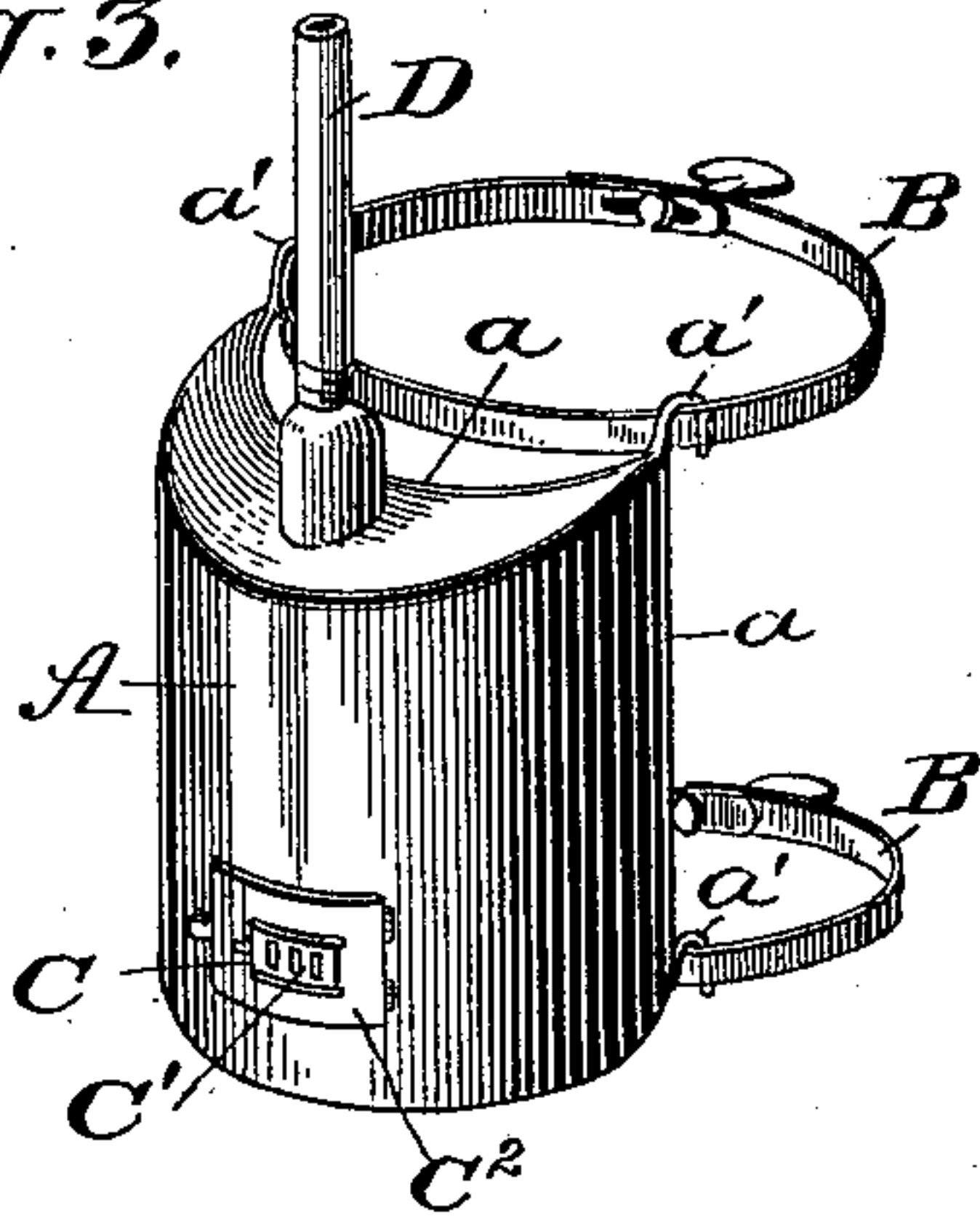
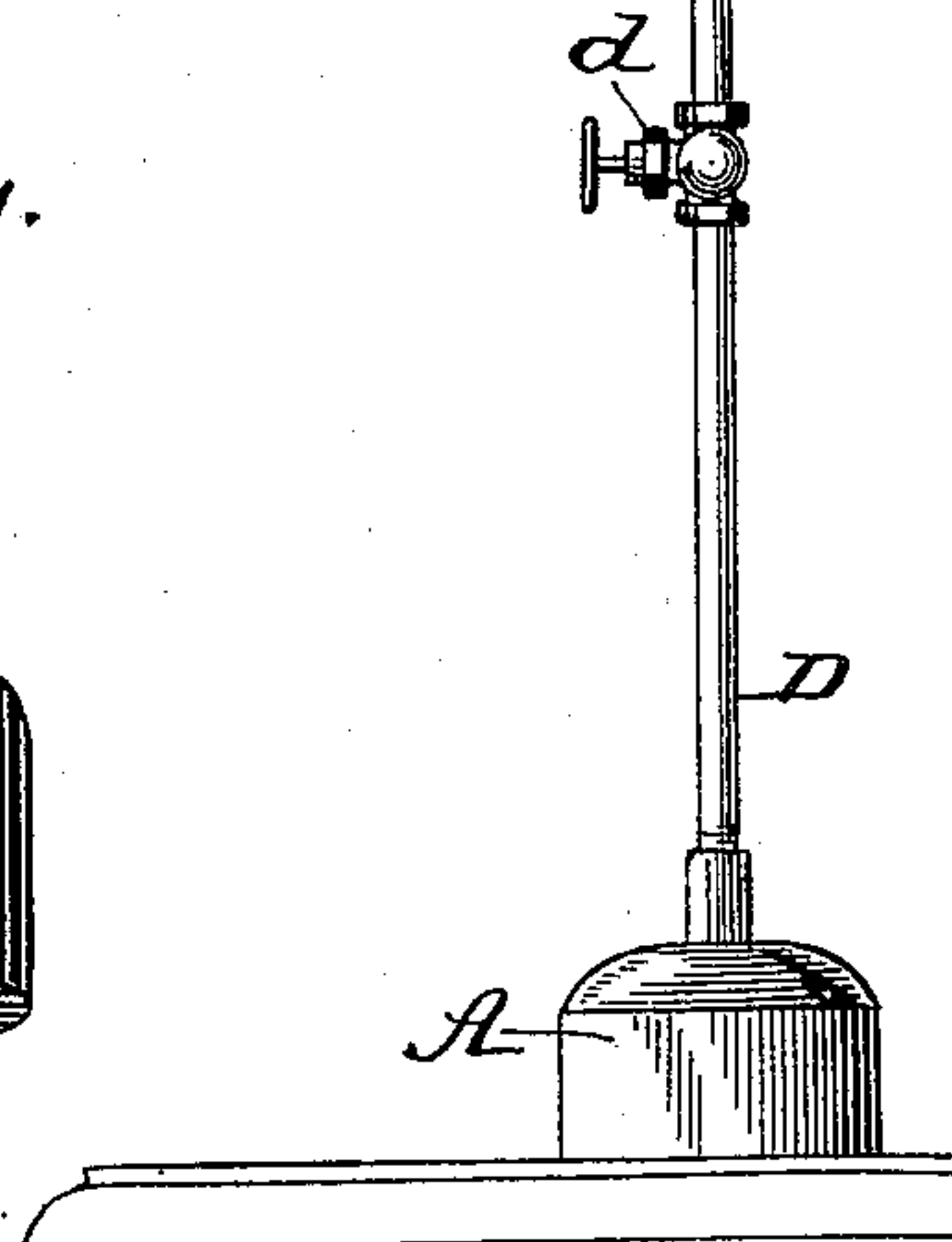
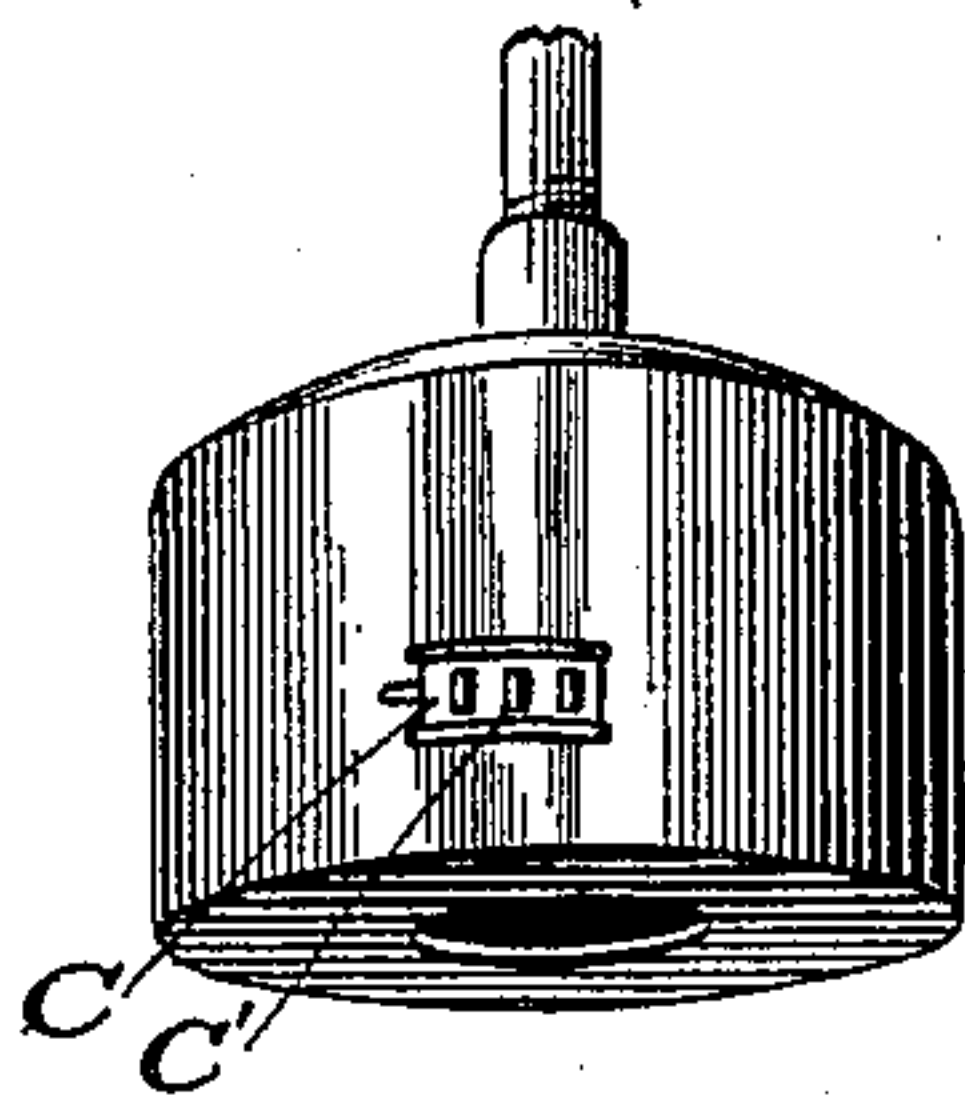


Fig. 4.



WITNESSES:

Jos. A. Ryan
P. B. Turpin

INVENTOR

Thomas R. Harper

BY *Mann & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS R. HARPER, OF WHEELING, MISSOURI.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 587,259, dated July 27, 1897.

Application filed July 18, 1896. Serial No. 599,606. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. HARPER, of Wheeling, in the county of Livingston and State of Missouri, have invented a new and useful Improvement in Force-Ventilators, of which the following is a specification.

My invention is an improvement in force-ventilators, being in the nature of an apparatus designed to carry off bad air from rooms and steam and odors peculiar to kitchens and the like.

The invention seeks, among other objects, to provide an apparatus which can be applied to any stove and tubular connections and collectors so arranged that the heating of the part applied to the stove will cause a draft to force up the apparatus and take up all steam, odors, and impurities from the air and discharge the same.

The invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the improvement as in use. Fig. 2 is a vertical longitudinal section showing a somewhat different form of foot-piece. Fig. 3 is a detail view of the foot-piece shown in Fig. 1, and Fig. 4 is a detail view of the foot-piece shown in Fig. 2.

The foot-piece or body may be adapted to rest flat upon the stove, as shown in Fig. 2, or be adapted to be secured alongside a stove-pipe, as shown in Figs. 1 and 3. This body A has one side *a* concaved to fit the stovepipe and has at such side projections or hooks *a'* for engagement by the clamps B, which secure the foot-piece to the stovepipe. A lateral air-inlet C is provided leading into the hollow foot-piece, and such inlet is controlled by a damper-slide C', as shown. This form of foot-piece may be preferred because it can be placed flat upon the stove, or if the stove is not adapted to support it can be clamped to the pipe, as may be most convenient.

The draft-tube D leads upward from the foot-piece or bowl and conducts the heated air therefrom. This tube is controlled by a valve *d* and has a coupling D', so the draft-tube can be lengthened or shortened to adjust the apparatus to fit ceilings of different heights.

The valve *d* may be set to cut off or limit the supply to cause pressure and increase the current in case of slow fire.

At its upper end the draft-tube D is threaded to a spider E, to which is threaded the funnel F of the collector, such funnel having at its lower end the flange *f*, which coincides with the line of the ceiling. The space within the spider forms a clear inlet for the foul air, steam, and odors from the room to the funnel F, from which they are conducted by the discharge-tube G, leading to a flue or other outlet. On the discharge-tube G, I place the adjustable clamp H, by which the apparatus may be held firmly in position, the said clamp being movable along the discharge-tube and having a set screw or screws *h*, by which it may be held in any desired position.

In practice it will be readily seen that the heated air in the foot-piece or bowl will rise and produce a strong draft up through the collector, drawing off all foul air, steam, and odors from the room and taking the same from directly below the ceiling.

For use in hot weather in sick-rooms or otherwise when it is not desirable or convenient to have a fire a stove or the like may be placed in the foot-piece or bowl, the latter being for such purpose provided with a door C², and in such case it is preferred to form the inlet C and the slide C' in the said door.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A ventilating apparatus comprising a hollow foot-piece or bowl for application to the heater, such bowl having a lateral air-inlet and means for controlling the same, a draft-tube leading from such foot-piece or bowl and having a controlling-valve, a collector receiving the hot air from said draft-tube and adapted to collect the foul air &c. drawn in by the suction of such hot air and a discharge-pipe leading from such collector substantially as shown and described.

2. A ventilating apparatus comprising the air-heating foot-piece or bowl, the draft-tube leading therefrom the collector receiving the heated air from said draft-tube and adapted to collect the foul air &c. drawn in by the suction of such hot air, the discharge-tube leading from said collector and the adjustable

clamp thereon whereby to secure the apparatus firmly in position substantially as described.

3. A ventilating apparatus comprising the
5 foot-piece or bowl adapted at one side to fit against a stovepipe and having a lateral air-inlet and means for controlling the same, the draft-tube leading from said foot-piece or bowl, the valve controlling said draft-tube,
10 the collector, the discharge-tube leading therefrom and the adjustable clamp on said discharge-tube substantially as shown and described.

4. A ventilating apparatus comprising a
15 funnel-shaped collector, a draft-tube and a spider joined to the upper end of the draft-tube and connecting the same with the large end of the funnel-shaped collector substantially as shown and described.

20 5. The ventilating apparatus herein de-

scribed consisting of the air-heating foot-piece or bowl, the draft-tube leading upward therefrom, a valve controlling said draft-tube, the funnel-shaped collector, the spider connecting the large end of said collector with the upper
25 end of the draft-tube and means for securing said collector in place substantially as shown and described.

6. A ventilating apparatus for stoves consisting of the air-heating foot-piece made concave on one side to receive the stovepipe and
30 provided with means whereby said side may be held to the stovepipe, a draft-tube leading from said heater, and a collector by which to draw in foul air &c. by the draft of said tube
35 substantially as shown and described.

THOMAS R. HARPER.

Witnesses:

HENRY E. BAILEY,
L. P. CARLYLE.