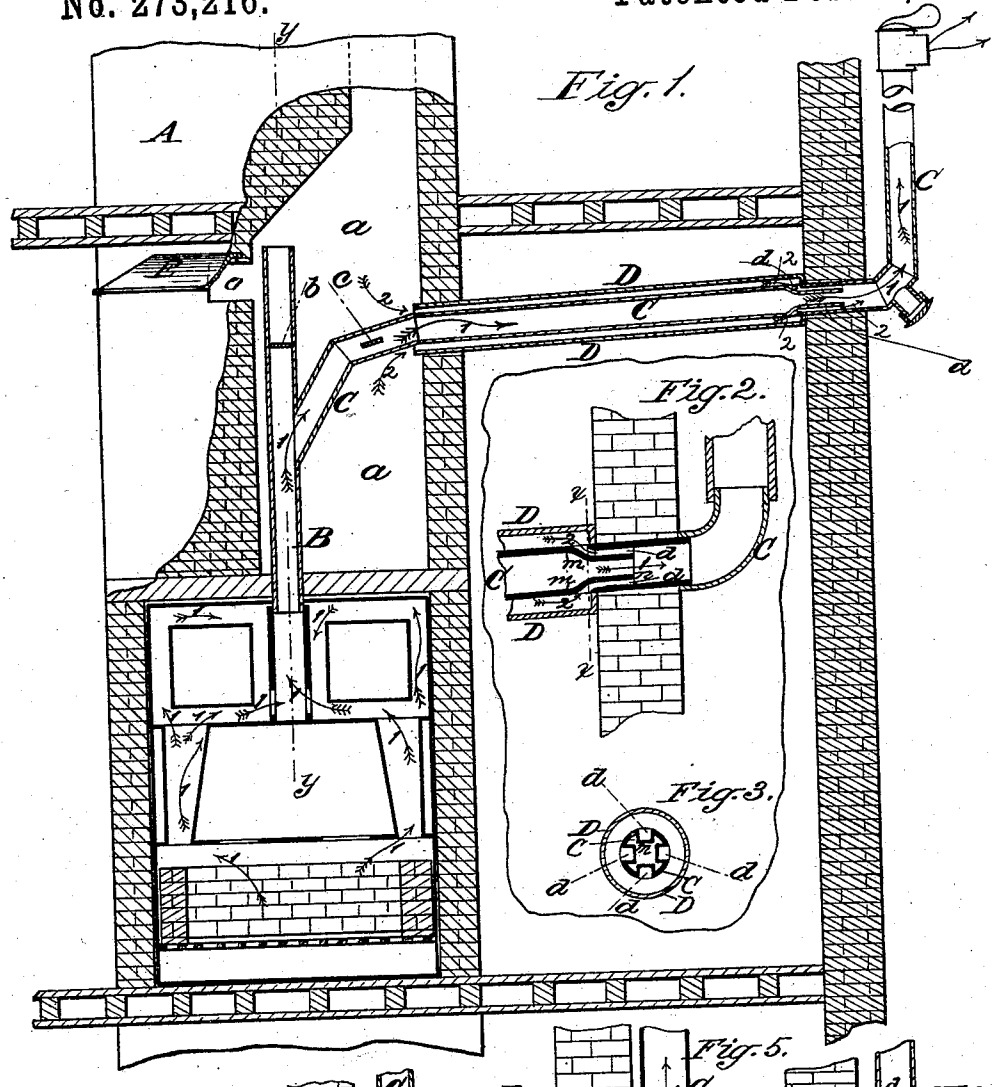
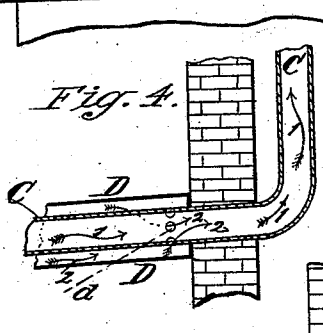
(No Model.)

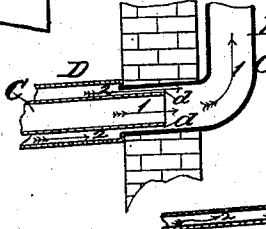
A. ZERBAN.

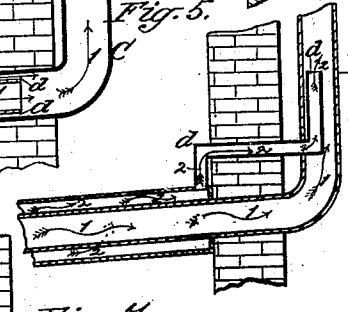
KITCHEN VENTILATOR.

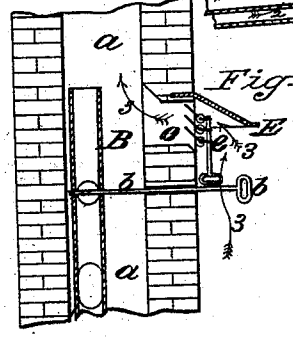
No. 273,216. Patented Feb. 27, 1883.











Witnesses
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UNITED STATES PATENT OFFICE.

ANDREW ZERBAN, OF NEW YORK, N. Y.

KITCHEN-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 273,216, dated February 27, 1883.

Application filed November 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, ANDREW ZERBAN, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented a new and useful Improvement in Kitchen-Ventilators, of which the following is a specification.

My present invention is intended to be used in connection with my improved house-cooling device, described in the application for a Patent of the United States filed August 9, 1882, Serial No. 68,868, and has for its object to prevent the smell caused by cooking animal and vegetable substances from being perceptible in any portion of the building, whether in the basement or the floors above, by providing suitable means for causing the fumes or vapors generated by the cooking in the kitchen to be carried out by the partial vacuum caused by the draft in the smoke-flue, and discharged with the smoke at a higher elevation than the roof of the building.

In the accompanying drawings, Figure 1 represents a partial sectional elevation of the basement and first floor of a house, showing my aforesaid house-cooling device with my present improvement applied thereto, the range and the chimney-breast above the fire being partly broken out to show the interior. Fig. 2 is a detail section (drawn to a larger scale than in Fig. 1) of the device, whereby the fumes from the cooking are drawn into and discharged through the smoke-flue, and which device constitutes the main feature of my invention. Fig. 3 is a cross-section of the same, taken through the line *x x* of Fig. 2. Figs. 4, 5, and 6 represent sections similar to Fig. 2 of modifications of the construction shown in said figure. Fig. 7 is a detail vertical section through the line *y y* of Fig. 1, showing the ordinary smell-catcher and register in front of the chimney-breast above the range.

Like letters of reference indicate like parts in the several figures.

A is the chimney-breast, and *a* the ordinary flue in the same leading from the kitchen-range.

B is the discharge-pipe leading from the stove or range, and is provided with a damper, *b*, by which the heat is prevented from ascending through the flue *a*, when so desired, and let through the auxiliary smoke-flue C, which is provided with a damper, *c*, and runs out from the pipe B laterally through the wall of the chimney-breast and thence to and through the rear wall of the building, outside of which latter it is turned upward, ascending vertically above the roof of the building, as described in my application previously referred to. In order, now, to utilize the draft created by the gases ascending through the flue C, for removing the gases generated by cooking, and thus to prevent the annoyance in the building of the smell produced by such gases, I have made the following simple construction:

The pipe D, which, as in my previous application, is also used to prevent radiation of heat from the pipe C into the kitchen, I extend through to the interior of the side wall of the breast A, leaving its inner end open, so that all the gases from the cooking, and which have entered into the flue *a*, will have an opportunity to enter the pipe D.

At the outer end of the pipe D, I provide one or more holes or passages, connecting it with the interior of the smoke-flue C. This may be done in several ways, as illustrated in Figs. 2 to 6, the operation of all of which will be plainly understood with reference to Fig. 1, the smoke and heated air from the fire entering and ascending through the flue C in the direction as indicated by arrows 1, and the gases from cooking animal and vegetable substances being drawn by the draft of the smoke-flue into the annular space between the pipes C and D, and thence through the aforesaid passages from the pipe D directly into the smoke-flue, from which they then escape above the roof of the building, together with the gases from the fire, their course being indicated by the arrows 2. The vapors from the cooking enter the flue *a* through an opening, O, made through the chimney-breast above the range, the said opening being provided with an ordinary "smell-catcher," consisting of a shed, E, and a register, *e*, as shown in Fig. 7, the course of the vapors being there indicated by the arrows 3.

The openings or passages connecting the pipe D with the pipe C are designated by the

letter *d*. Said passages may be formed by simply perforating the pipe C, as shown in Fig. 4, or by making the end of the horizontal part of the flue C sufficiently smaller than the elbow-joint to leave a space between the said pipe and the surrounding elbow, as shown in Fig. 5; or a separate small pipe may be made to connect the exterior of the pipe D with the interior of the pipe C in the manner shown in Fig. 6; but I prefer the construction shown in Figs. 2 and 3. In this one or more openings, (but preferably four, arranged as in Fig. 3,) are made by cutting or slitting through the pipe C three sides of a square or other figure, leaving one side uncut, and then bending inwardly the lip *m* thus formed. In order that no eddy may form in the current and interfere with the vacuum, I then bend a piece of iron or tin-plate to the shape of the outline of the said inwardly-projecting lip *m*, in order to form a channel, *n*, and solder its edges to the said lip and to the inner side of the pipe C in the direction of the current.

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

1. The combination of the opening O, the smoke-flue B C, and a pipe, D, opening with its inner end into the chimney-breast flue and with its outer end into the said smoke-pipe, substantially as and for the purpose set forth.

2. The combination of the opening O, the smoke-flue B C, the pipe D, opening into the chimney-breast flue and forming an annular space around the said smoke-flue, and passages connecting the said exterior pipe with the said smoke-flue, substantially as and for the purpose set forth.

3. The combination of the smoke-flue B C and the pipe D, open at its inner end in the chimney-breast flue and forming an annular space around the said smoke-flue, the interior pipe, C, being perforated at or near the outer end of the exterior pipe, D, substantially as and for the purpose herein set forth.

4. The combination of the smoke-flue B C and the pipe D, open at its inner end in the chimney-breast flue and forming an annular space around the said smoke-flue, channels *d* being formed at the outer end of the pipe D, upon the inside of the pipe C, by the cut and inward-bent lip *m* and the channel plate *n*, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two witnesses.

ANDREW ZERBAN.

Witnesses:

A. W. ALMQVIST,

ROBT. W. MATTHEWS.