

(No Model.)

J. McCREERY.

SYSTEM FOR VENTILATING BUILDINGS.

No. 390,030.

Patented Sept. 25, 1888.

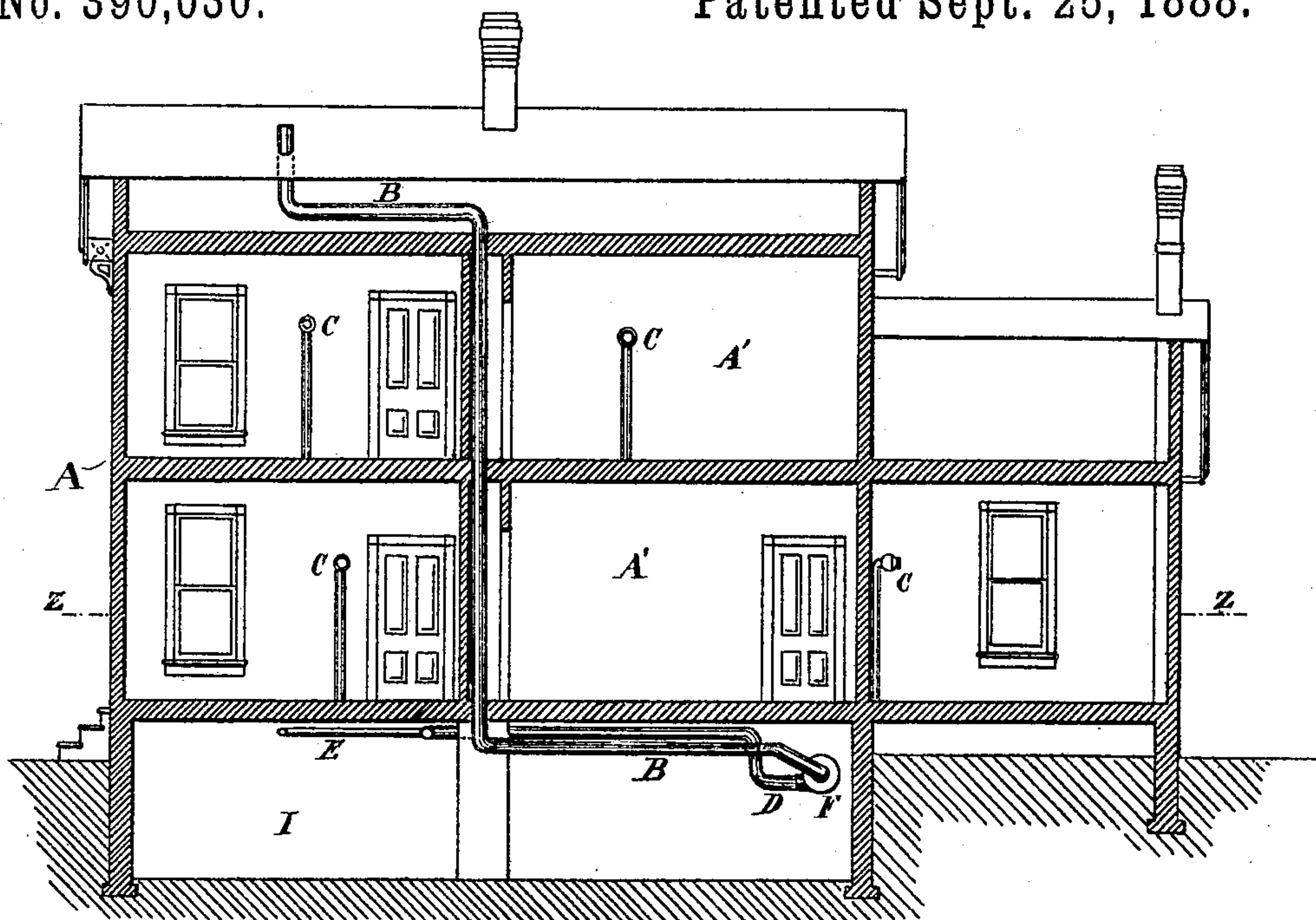


Fig. 1

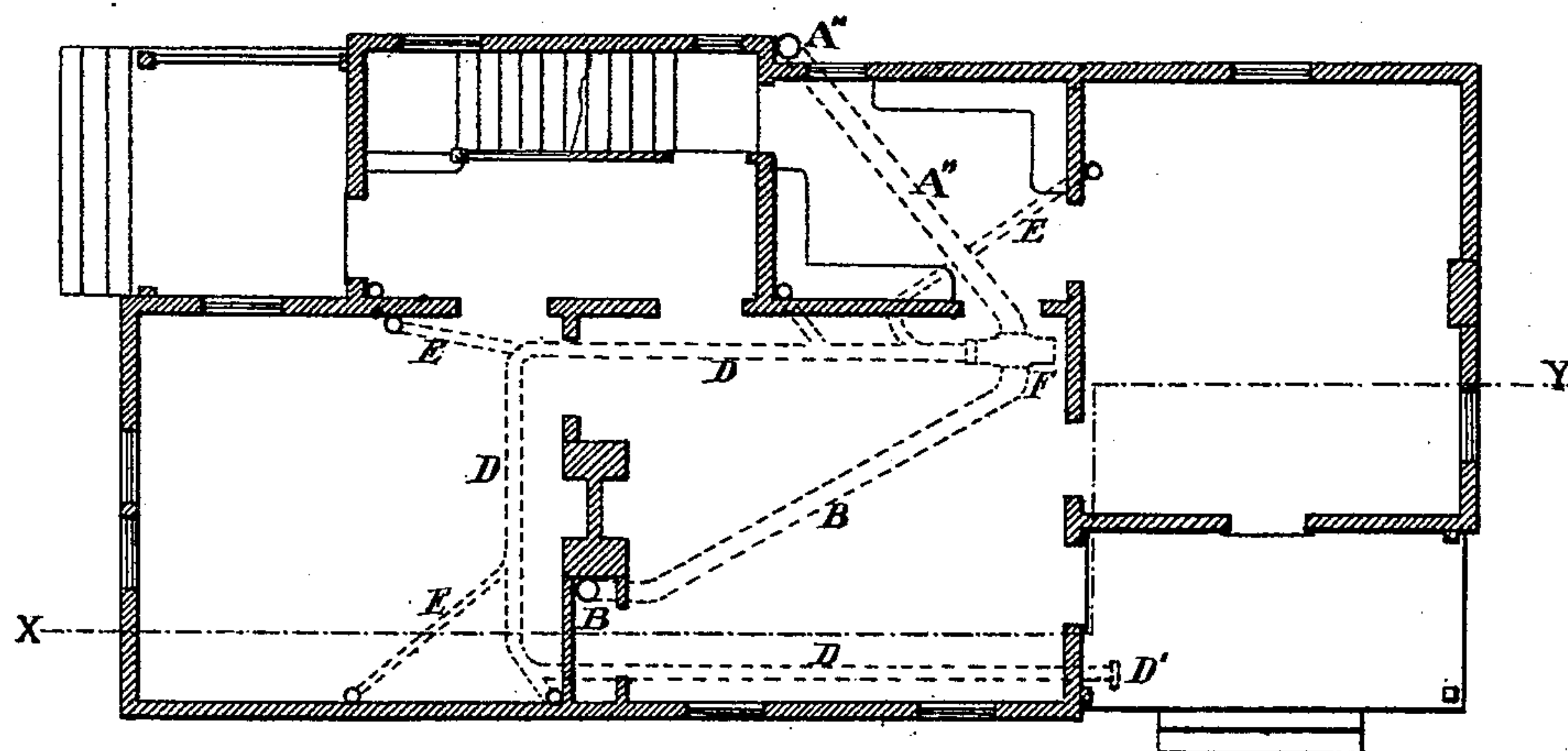


Fig. 2.

Witnesses.  
Charles E. Clemons  
Fred B. Talbot

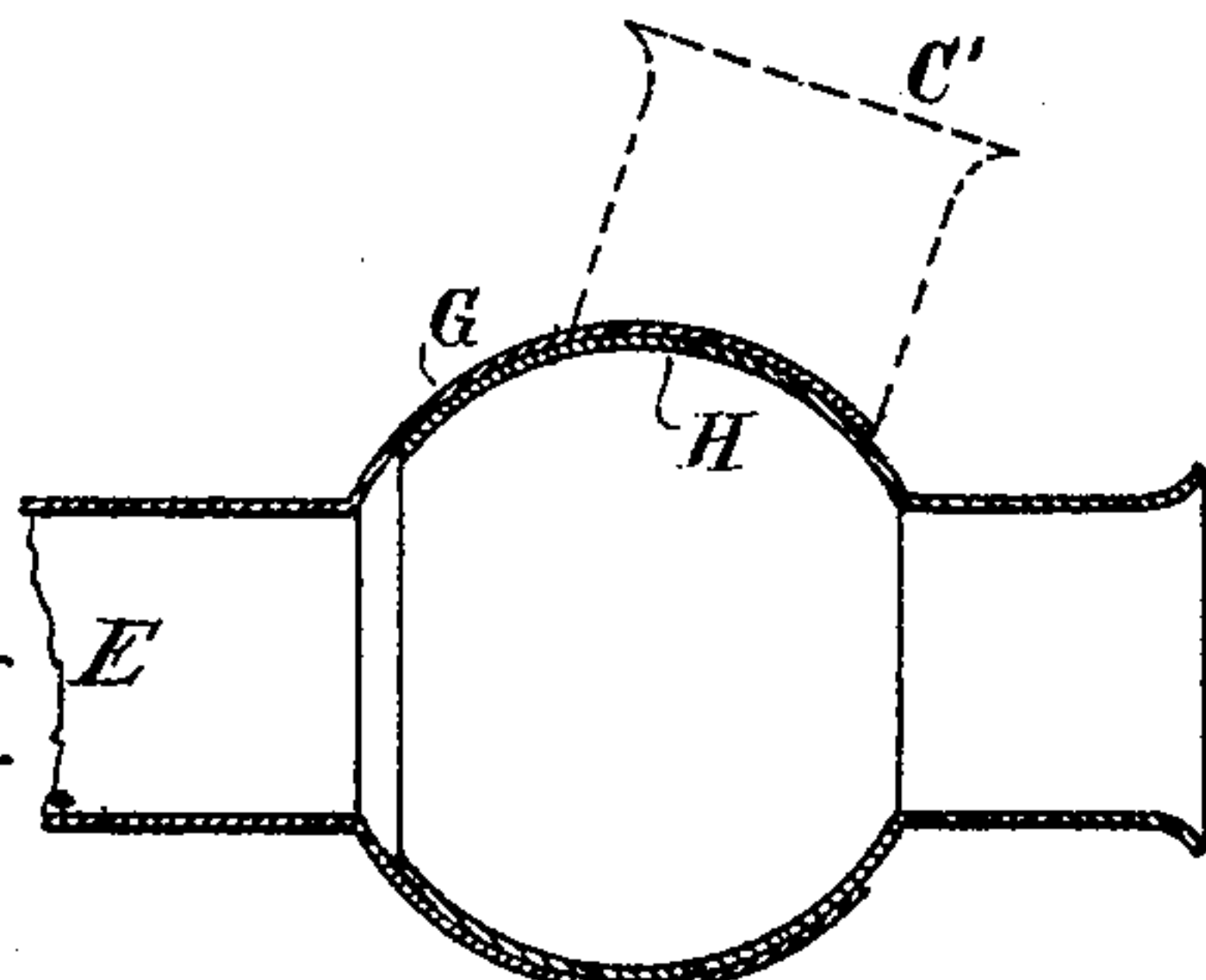


Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## SYSTEM FOR VENTILATING BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 390,030, dated September 25, 1888.

Application filed August 16, 1887. Serial No. 247,058. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH McCREERY, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have  
5 invented certain new and useful Improvements in a System for Ventilating Buildings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to  
10 which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to a system for ventilating buildings, and has for its objects to provide means by which a current of atmospheric air induced by the operation of a fan is forced to the main supply-pipe, to be led therefrom to any part or parts of a building.

20 My invention also relates to certain details of construction and combination of parts hereinafter described, and pointed out in the claims.

In the arrangement shown in the drawings, Figure 1 is a vertical sectional elevation on the  
25 lines X Y, Fig. 2; and Fig. 2 is a plan view on the lines Z Z, Fig. 1, of a dwelling-house provided with my system. Fig. 3 is a detail view of a variable cut-off and air-port, by which the current of air is admitted to or entirely shut off from a room.

30 Like letters of reference indicate like parts throughout the several views.

A represents a building of any character, (in the present instance a dwelling-house is  
35 shown,) having several apartments, marked A'.

I represents the basement, in which is located a fan-blower, F, actuated by any preferred motive power, to which is connected an air-induction pipe, which extends horizontally  
40 for a short distance and is then bent at a right angle, from which point it is extended up to and above the roof of the building. I have shown in the plan view two induction-pipes merely for the purpose of indicating different  
45 localities in which the pipe may be placed, it being understood that ordinarily but one induction-pipe is necessary.

When it is desired to attach my system of pipes to a building already completed and it  
50 is desired to obviate the necessity of cutting through the walls to place the pipes within

the building, pipe A" is connected with the blower and led through the basement or lower part of the building to the outside thereof, and the vertical portion extended to any desired  
55 height. In this instance the pipe B may be omitted, if desired. When, however, the system of pipes is placed within a building during its construction, the preferred way is to lead the induction-pipe (marked B) within the  
60 building, as shown in the plan view, and also in the vertical sectional view, Fig. 1. In this construction the pipe B is led horizontally from its point of connection with the blower F to any point desired, preferably by the side of a  
65 partition-wall, and extends vertically within the same to any height outside the building. In this arrangement the pipe A" may be omitted, if desired.

Attached to the lower portion of the blower  
70 F is a main supply-pipe, D, adapted to receive a forced current of air from the blower. This pipe preferably extends throughout a large radius of the lower portion of the building, the basement or cellar being the better location for  
75 the same. As shown, it extends under the center of the building, midway of and in parallel relation with the outer walls, to a point forward of the central partition-wall, and is there bent at a right angle, extending across the  
80 space, where it is again bent at a right angle, and extends parallel with the wall and to the outside, being provided at its end with a relief-valve adapted to blow off at any excess of pressure within the pipe D, to which the valve  
85 is adjusted. As this valve is of the ordinary construction, it is unnecessary to further illustrate it.

Connected with the main supply-pipe D are any desired number of branch pipes E, which,  
90 extending horizontally a sufficient distance therefrom to bring each directly underneath the apartment it is desired to ventilate, is bent at right angles and led thereto, preferably entering the room at the side and extending up-  
95 wardly to a point midway its height, where it is bent at right angles, in order to project the current of air horizontally into the room.

Upon the end of each pipe E is attached a variable cut-off and air-port, C, which by its  
100 construction can be adjusted to allow any desired volume of draft of air to be projected



within the room. This variable cut-off and air-port is constructed as follows: The end of pipe E is formed with an enlarged spherical central portion G, into which the enlarged spherical central portion H of the part C is fitted, the two side portions of the spherical parts being open to the extent of the diameter of pipes E. It will be readily seen that by this construction the part C can be moved as a universal joint within the part G, as shown in dotted lines, Fig. 3.

The operation is as follows: The fan being put in operation by means of any preferred motive power, a current of atmospheric air is induced through either pipe, A" or B, (or both may be used, if necessary,) the fan forces the air received into the main supply-pipe D, from which it passes into the branch pipe E, arranged within the several apartments of the building. Should all the ports C of the system be open, the supply of air to each apartment will be equal, and as a consequence the relief-valve will be closed; but in the event of a number of ports being closed and the volume of air supplied by the fan uniform the amount of air supplied to the open ports will be increased in a ratio corresponding to the number of closed ports, and in the absence of a relief-valve would be greatly in excess of the desired quan-

tity were it not that it finds its escape through valve D', which opens at the desired pressure and permits the air to escape. The volume of air admitted through air-ports C can be adjusted to a nicety by the variable shut-off, formed by the part H of the air-port C, which upon being moved from a horizontal toward a right angle with pipe E limits the opening in the same until it is finally closed by the two parts being at right angles.

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

In a system for ventilating buildings, a fan-blower, an induction-pipe connected therewith, a main supply-pipe connected with the blower, and branch pipes connected with the main pipe and the several apartments of the building, each branch pipe being provided with a variable cut-off and the main pipe being provided with a relief-valve, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

JOSEPH MCCREERY.

Witnesses:

WILLIAM WEBSTER,  
BYRON F. RITCHIE.