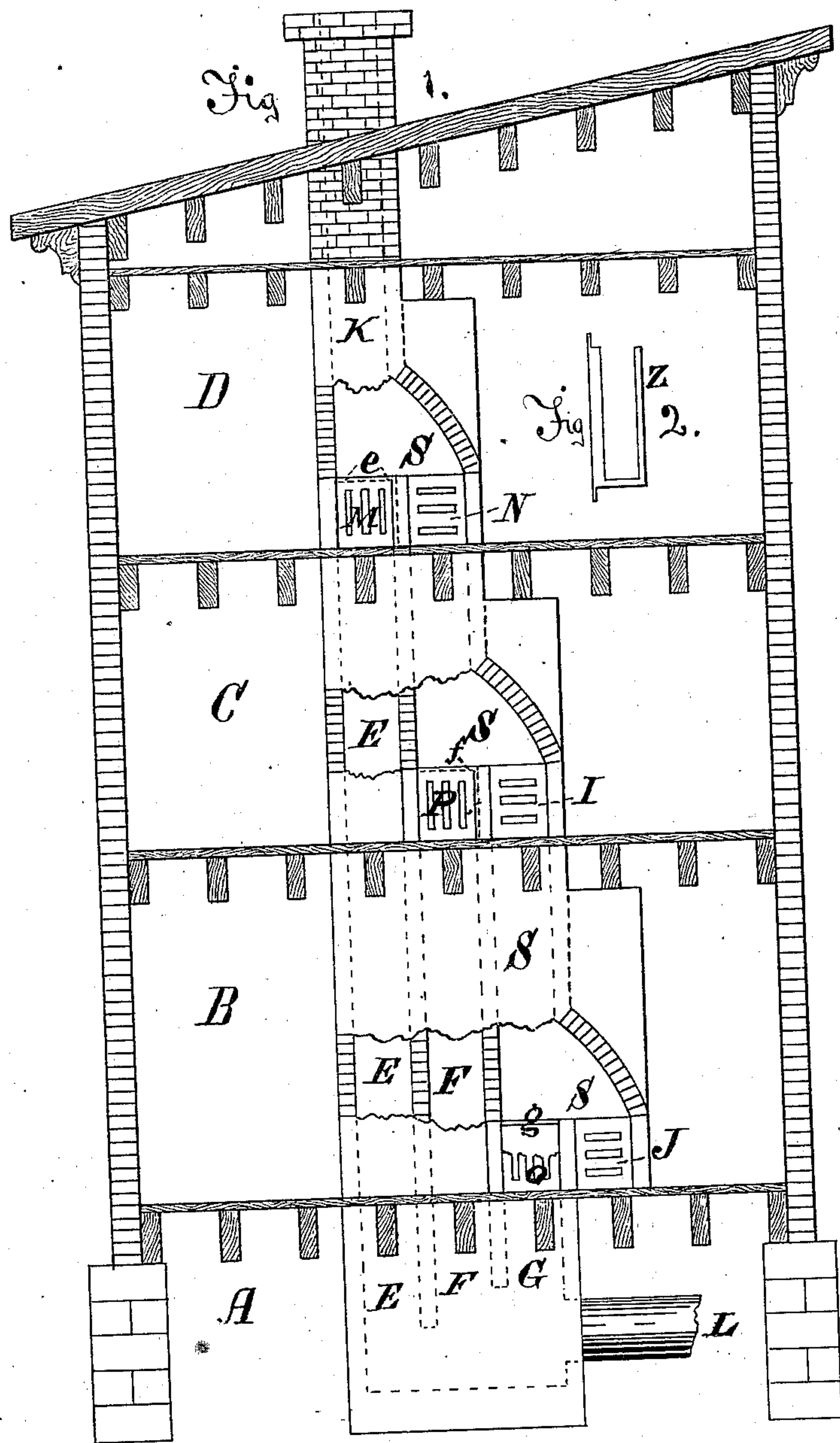


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Heating and Ventilating Apparatus for Buildings.

Patented May 18, 1875.

No. 163,320.



Witnesses.
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN HEATING AND VENTILATING APPARATUS FOR BUILDINGS.

Specification forming part of Letters Patent No. 163,320, dated May 18, 1875; application filed April 12, 1875.

To all whom it may concern:

Be it known that I, ORLANDO KELSEY, of Worcester, Worcester county, State of Massachusetts, have invented certain new and useful Improvements in Heating and Ventilating Apparatus for Buildings; and I do hereby declare the following to be a full, clear, and precise description of the same, reference being had to the accompanying drawings forming part of this specification, of which—

Figure 1 is an elevation of the inside of a wall of a building, showing the construction of my flues; and Fig. 2, a side view of the ventilator-reflector.

Similar letters of reference indicate like parts in both the figures.

My invention relates to the thorough ventilation and purifying of the atmosphere of buildings. It consists, substantially, of a double or twofold flue—the first to introduce the heat, fresh from the source of supply, into the room; the second, auxiliary to the first, to exhaust the impure air, the two acting in conjunction to produce the desired result.

For the better information of the public, I will proceed to describe the construction of my invention in detail, and I speak now of Fig. 1. A represents the cellar of the building, B the first floor, and C and D, respectively, the second and third floors. E is a vertical heating-flue passing up from the furnace L below to the third floor, where it terminates in a sheet-metal angular or spherical cap, *e*, connecting with the room D by a register, M. This cap is so constructed as to radiate heat very freely into the auxiliary ventilating-flue S adjoining. This auxiliary ventilating-flue S passes up from the first floor to the top of the house, and communicates with each floor by means of ventilating-registers N I J alongside of the heat-registers.

These ventilating-registers are provided with reflectors Z, as shown in Fig. 2, above

the first story, to prevent the ingress of the foul air carried up from the story below. Now, it will be readily understood, taking the third floor for illustration, that fresh heated air is admitted into that floor by register M, the impurities in which air sink to the bottom of the room, and are drawn into ventilator-register N by reason of the upward current of heated air generated in the ventilating-flue S by the radiation of heat from the cap *e*, and thence ascend and escape through the outlet K. The cap *e* is constructed conveniently with flanges for attachment of the registers, &c. This arrangement of flues, as will be seen, is carried out upon each floor, all ventilating-registers opening into a common auxiliary ventilating-flue, S, or flues, where more than one are required. F is a heat-flue, supplying floor C, and covered by the cap *f* and register P, the arrangement being the same as on the third floor. Q is the cap and O the heat-register on the first floor, and G the flue.

There is no connection between the heat and ventilating flues.

The advantages of my device are its cheapness and the extreme purity of the atmosphere created by its employment.

Having thus fully described my invention, what I claim and desire to secure is—

1. The auxiliary ventilating flue or flues S, adjoining the heat-flues E and F and G, and extending from first floor to top of building, and ventilating every story, in combination with the heat-flues E, F, and G, substantially as shown and described.

2. The caps *e*, *f*, and *q*, for forcing the ventilation, substantially as shown and described.

3. The reflectors Z, substantially as shown and described.

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Witnesses:

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