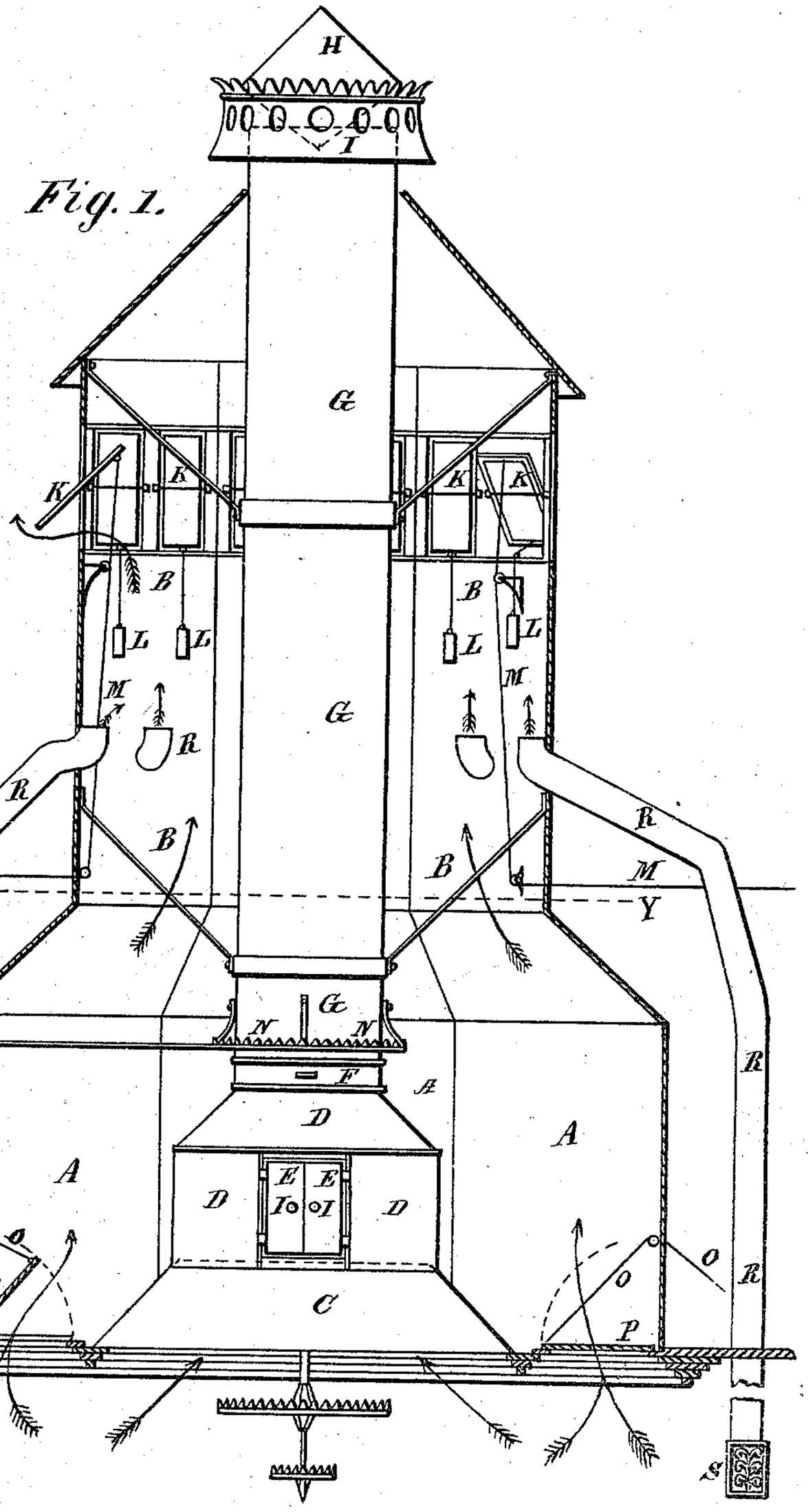
2 Sheets--Sheet 1.

L. B. VALK.

Ventilating Buildings.

No. 142,598. Patented September 9, 1873.

Fig. 1.



Witnesses

T. C. Fletcher

Jno Robertson

Inventor

Lawrence B. Valk.

2 Sheets--Sheet 2.

L. B. VALK.

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Fig. 2.

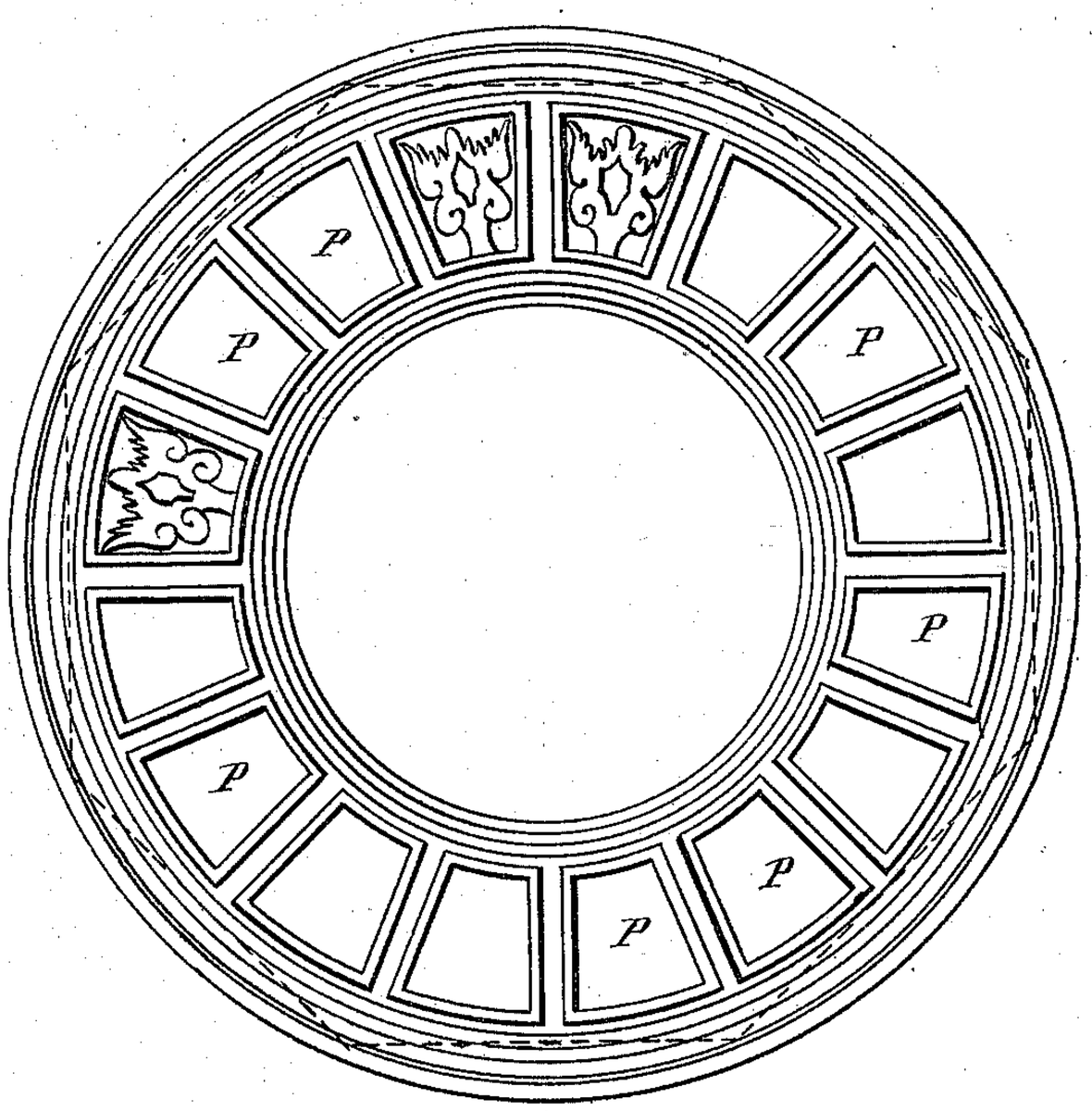
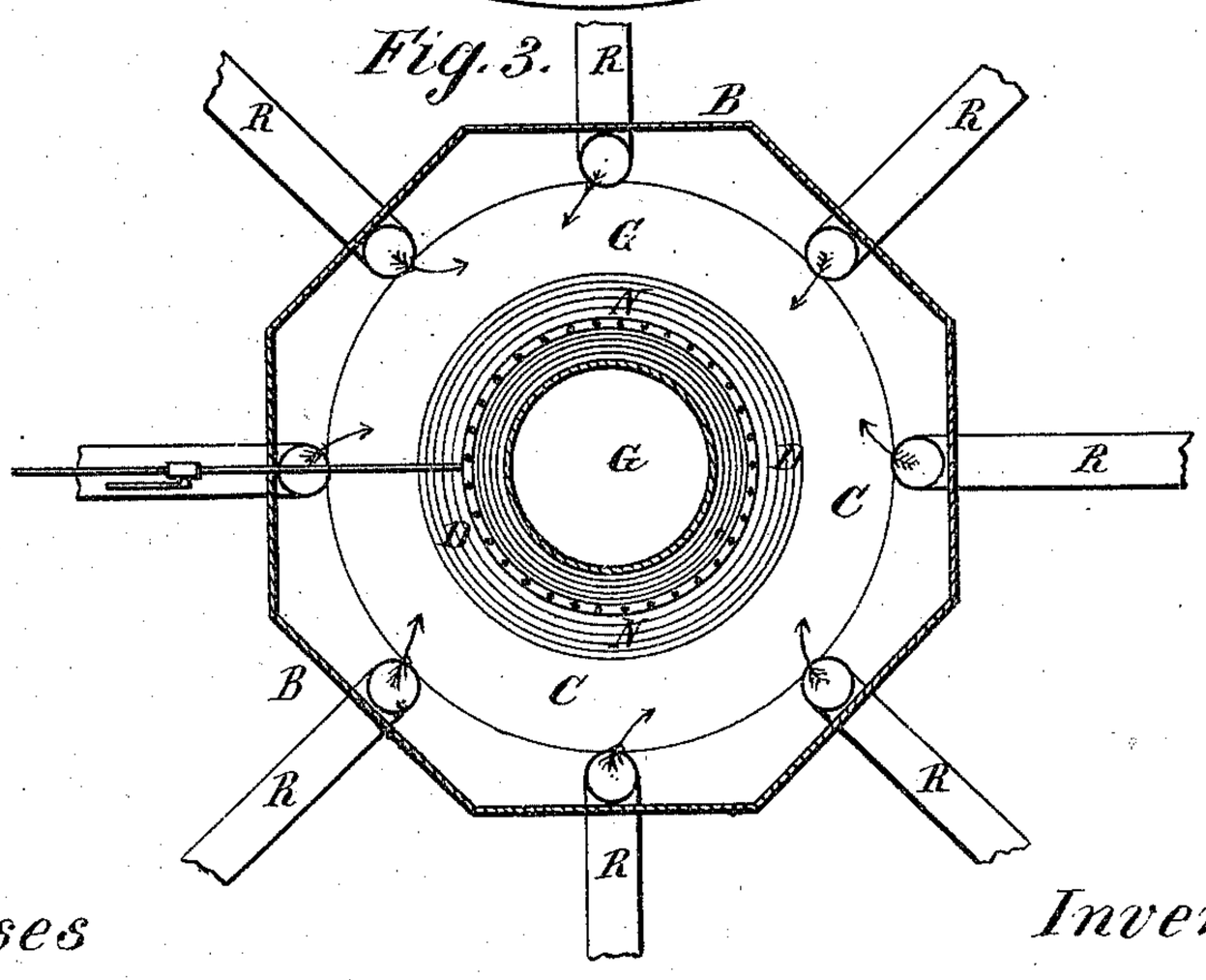


Fig. 3.



Witnesses

T. C. Fletcher

Jno. Robertson

Inventor

Lawrence B. Valk.

UNITED STATES PATENT OFFICE.

LAWRENCE B. VALK, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN VENTILATING BUILDINGS.

Specification forming part of Letters Patent No. **142,598,** dated September 9, 1873; application filed May 24, 1873.

To all whom it may concern:

Be it known that I, LAWRENCE B. VALK, architect, 509 Bergen street, Brooklyn, Kings county, New York, have invented an Improved System of Ventilation for churches, halls, and public buildings, of which the following is a specification:

My invention consists of providing the means to exhaust the foul air from an audience-room or assembly-hall or church.

Figure 1 represents a double tube, constructed of metal, located between the roof and ceiling of the room to be ventilated, to be of proper proportions to the size of the room. Said outside tube A and B can be made circular, square, or octagonal, to fit down tight to a center-piece of metal secured to the ceiling, to extend above the roof in the form of a cupola, and to the part above roof filled in with pivoted sash K, operated by the wires M to pull them open from the church or room floor, and the weights L to keep them shut. On the ceiling is a plain or ornamental metal center-piece, Fig. 2, having a large opening in the center for a reflector, and the outer part divided into sixteen or more panels, each having ornamental open screens in front of hinged metal or wood trap-doors P P, opened by wires pulled from the church or room floor. Attached to and connected with the outside tube A and B are the radiating tubes R R R, shown on Figs. 1 and 3, which tubes are also made of metal, and extend from this outside tube to different parts of the church or room down through the side walls to within four to six feet from the floor, the opening being fitted with ordinary registers S. Inside of this outer tube is the smaller one, G, having a cone, D, with its collar F and doors E E set on top of an ordinary reflector, C, this tube G to be one-third of the diameter of the outside tube A and B, and to extend up above the top of tube A, with a weather-cap, I and H. Around this tube, just above the cone D, is a ring of gas-burners, N, placed one inch apart on said ring.

The operation of this apparatus is thus: To ventilate in the day-time, the ring of gas-burners N is lighted, warming the space between the two tubes A B and the tube G. Then, by opening the trap-doors P and the sash K or the damper on tube G, the foul air is drawn off from the ceiling, which can be governed at pleasure, and the foul air in lower part of room is drawn off by opening the registers in tubes R. At night the gas on the ring is extinguished, the reflector-fixture lighted, which heats both tubes in like manner, causing a powerful upward exhaust current of air at both times, day or night, which will draw the foul air off as fast as created by opening one or more of the traps and sash, as may be required.

I claim—

The tube A B, provided with ventilating-sash K, in combination with the tube G, trap-doors P, and tubes R, all constructed and arranged to operate substantially as set forth.

LAWRENCE B. VALK.

Witnesses:

THOS. COOK FLETCHER,

J. M. ROBERTSON.