(No Model.)

# J. H. LINDSLEY.

## SYSTEM OF VENTILATION.

No. 370,632. Patented Sept. 27, 1887.

Fig. 1.

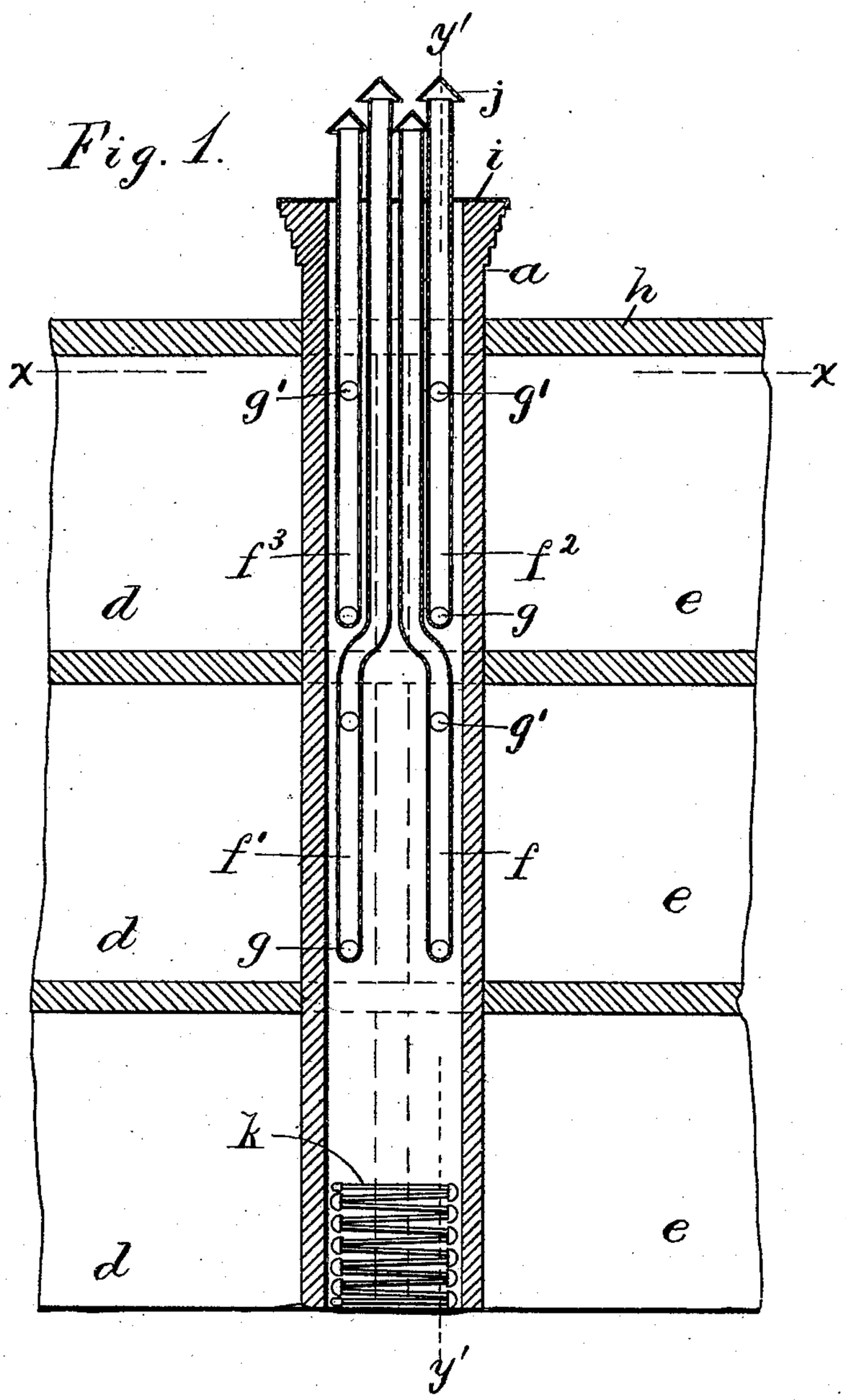



Fig. 3.

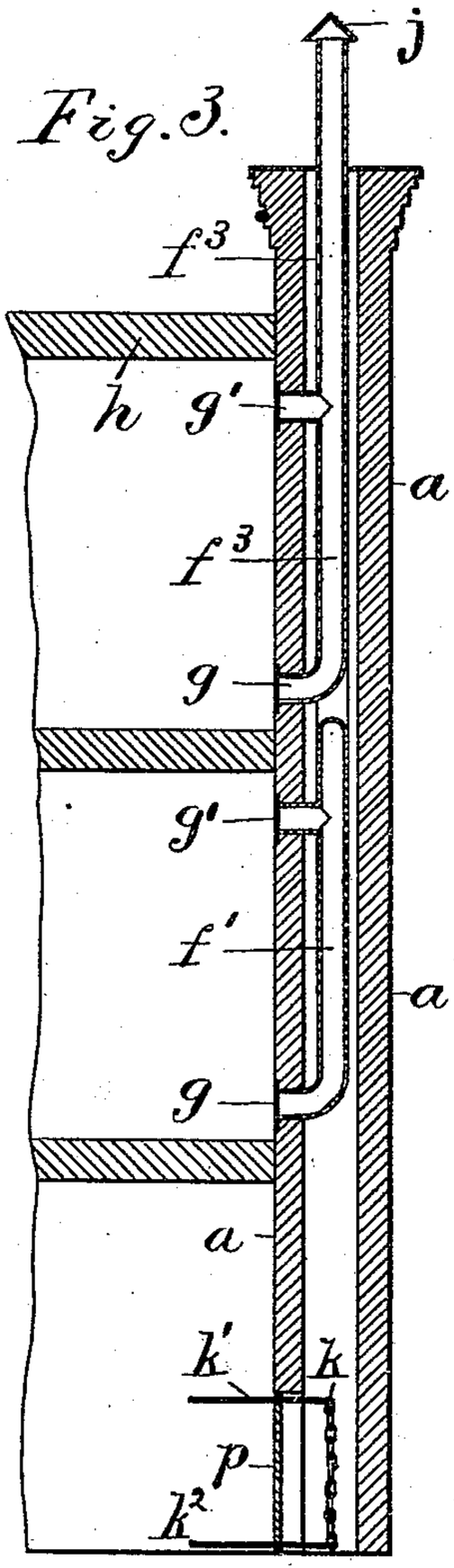



Fig. 2.

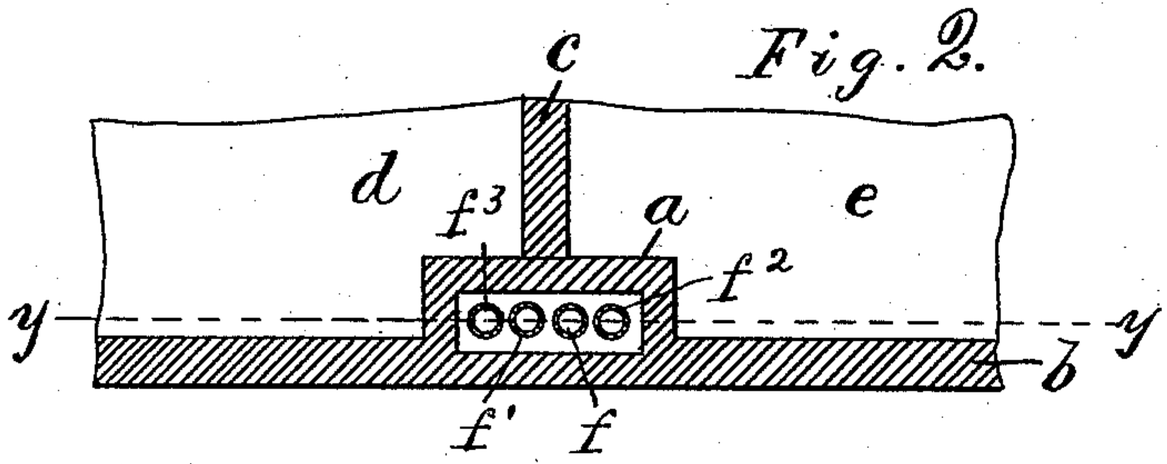
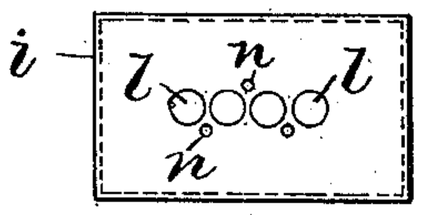



Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## SYSTEM OF VENTILATION.

SPECIFICATION forming part of Letters Patent No. 370,632, dated September 27, 1887.

Application filed March 19, 1887. Serial No. 231,548. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. LINDSLEY, a citizen of the United States, residing at Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Systems of Ventilation, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention consists in an improved means for inducing currents of the impure air from the different apartments in a building, and discharging such currents separately to the open air, the pipes conducting the air from the several apartments being kept entirely separate from one another and discharging independently into the outer air.

The invention will be understood by reference to the annexed drawings, in which—

Figure 1 is an elevation of part of three stories in a building with a closed hot chamber carried up above the roof, the flue being shown in section on line *y y* in Fig. 2, to expose the ventilating-pipes from the different apartments. Fig. 2 is a plan of the same on line *x x* in Fig. 1. Fig. 3 is a vertical section of the same on line *y' y'* in Fig. 1, and Fig. 4 is a plan of the cap-plate for the flue.

In the drawings, the closed hot chamber *a* for heating the ventilating-pipes is shown in contact with the wall *b* at one side of a building, with a partition, *c*, extending from the middle of the flue between apartments *d* and *e*. The top of the chamber is extended above the roof *h* of the building. Registers *g g'* are formed in the walls of the apartments on each side of the partition in the second and third stories of the building, leading to pipes *f*, *f'*, $f^2$, and $f^3$, which extend upward within the chamber from such apartments above the top of the flue. The register *g* is inserted in the walls of the apartment near the floor and the register *g'* near the ceilings, and by opening and closing such registers the ventilating-pipes conveyed from such apartments may be made to draw the impure air from the lower or upper strata in such apartments. A plate or cover, *i*, is fitted tightly to the top of the chamber, and apertures *l* are formed in the plate for the passage of the ventilating-pipes. The pipes are shown provided with cowls *j*. In the bottom of the chamber is shown a heating-coil, *k*, provided with an inlet-pipe, *k'*, and an outlet-pipe, $k^2$, and a door, *p*, in the side of the chamber affords access to such coil when desired. The heat from such coil operates to warm the air within the chamber, so that the several pipes *f f'* $f^2$ $f^3$ are constantly supplied with heat through their walls, to induce an upward current therein to discharge the impure air from the connecting apartments, as desired.

Without the cover *i* upon the top of the chamber the heat generated within would be speedily dissipated, but the stagnation of the air within such chamber would prevent the convection of the heat through its contents and its distribution to the several pipes *f f'* $f^2$ $f^3$ in the required manner. To prevent such stagnation, I form several holes, *n*, in the cover, as shown in Fig. 4, which permit a slow escape of the heated air from within the chamber, which would be supplied in turn by similar holes in the door *p*, or by loosely fitting the same to its frame. I thus maintain a proper distribution of the heat from the coil *k* throughout the contents of the chamber, including the ventilating-pipes, and effect the heating of the pipes in the desired manner.

The construction shown the drawings is especially adapted for use in ventilating buildings which are heated by steam in the winter season, as the windows cannot be opened at such time for ventilation, and the steam for heating a coil is readily obtained; but it is obvious that a stove or other heating device may be used in place of the steam-coil *k*, and the invention adapted for any required location.

In applying my invention to large schoolrooms I employ sixteen-inch ventilating-pipes arranged within a brick chamber twenty inches wide by seventy-four inches long, and furnish three one-inch holes in the cover *i* to afford the necessary escape of the heated air to prevent stagnation.

The ventilating-pipes may be extended from the chamber between the floors and ceilings to remote apartments, and it is obvious that they may be introduced to the apartments at any point, and furnished with only a single inlet-register, if desired.

I am aware of United States Patent No. 240,465, showing a ventilating-flue open at the

top and heated to draw the vitiated air from the different apartments, and also of United States Patent No. 120,031, showing a metallic cylinder surrounding a stove-pipe and connected with a metal chimney which is entirely closed except at small holes for discharging the contents of the cylinder.

I am also aware of United States Patent No. 236,141, showing a hot-air chamber with furnace-pipes leading to different floors of the building and adjusting-plates applied to such pipes whereby heat may be taken from any plane in the hot-air chamber, and of British Patent No. 4,717 of 1879, showing earthenware ventilating-flues conducted through the brick-work of a building by the side of the hot chimney-flues, to discharge the vitiated air separately from the different apartments.

I wholly disclaim the above-cited patents, as my invention differs from their several constructions in requiring the application to a building of a distinct chamber extending from the lower floors to the roof and provided with a cover having only a few small perforations to prevent the stagnation of the air therein, and such chamber being artificially heated, and the ventilating-pipes being carried separately from the different apartments up through such chamber and through its cover into the open air.

Having thus set forth my invention, what I claim herein is—

The means for ventilating the several apartments of a building independently of the chimneys, smoke-flues, or pipes employed for heating the same, and consisting in the combination, with a brick chamber extended from the lower floors to the roof of the building, of means, substantially as described, for heating the air within the chamber, a cover fitted thereto to prevent the escape of such heated air, and having one or more small holes in it to prevent the stagnation of the air within the chamber, and separate ventilating-pipes conveyed from the separate apartments into such chamber, and extended upward through the same and through the cover upon its top into the open air, substantially as herein shown and described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES H. LINDSLEY.

Witnesses:

L. LEE,

HENRY J. MILLER.