A. W. LOUTH.

BUILDINGS.

No. 192,441. Patented June 26, 1877.

Fig. 1.

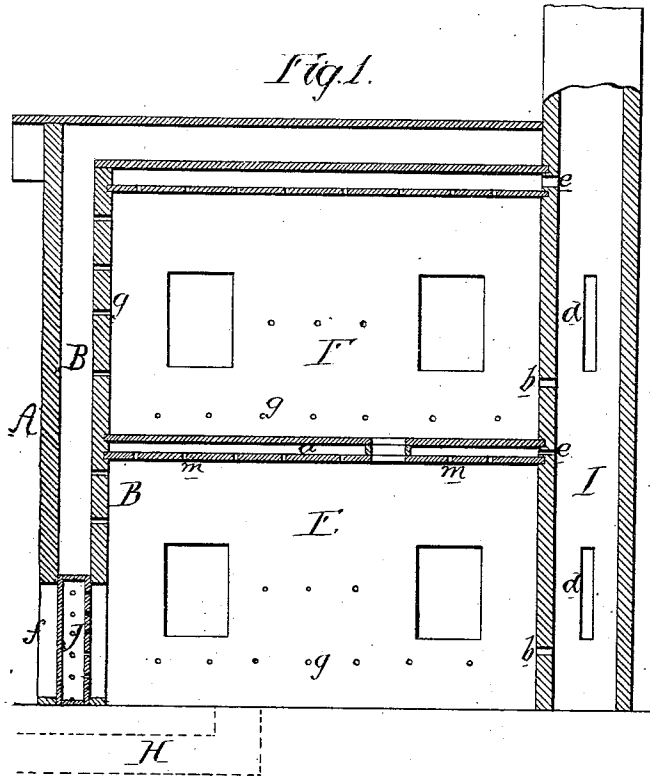



Fig. 2.

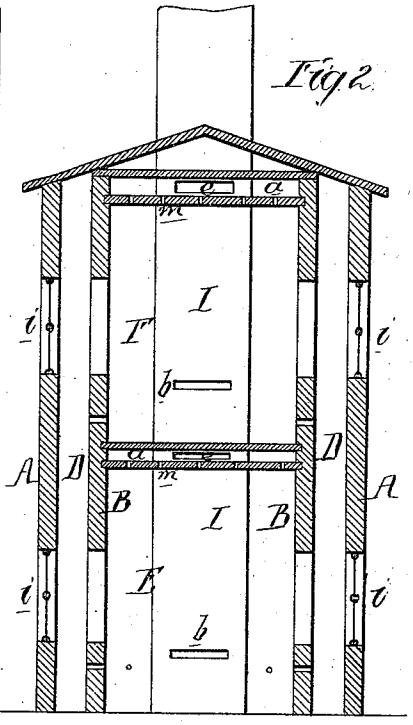



Fig. 3

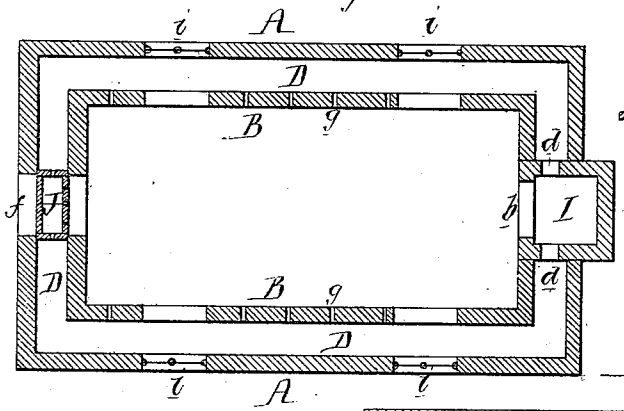



Fig. 5

Fig. 6

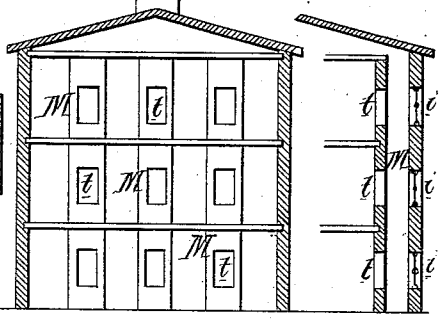
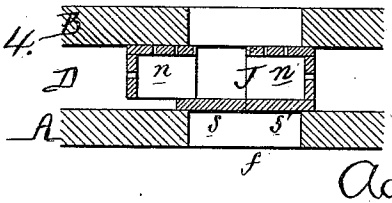



Fig. 4.




Witnesses

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# UNITED STATES PATENT OFFICE.

ADAM W. LOUTH, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN BUILDINGS.

Specification forming part of Letters Patent No. **192,441**, dated June 26, 1877; application filed April 16, 1877.

*To all whom it may concern:*

Be it known that I, ADAM W. LOUTH, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Buildings, of which the following is a specification:

My invention relates to an improvement in the construction of buildings in which noxious odors are generated, such as bone-boiling or fat-rendering establishments, printing-ink factories, &c.; the object of my invention being to prevent the escape of the odors from the building excepting through a particular outlet.

This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a longitudinal section of my improved building; Fig. 2, a transverse section of the same; Fig. 3, a sectional plan; Fig. 4, an enlarged section of a portion of the building; and Figs. 5 and 6, views of a modification.

The building shown in Figs. 1, 2, and 3 has inner and outer walls, A and B, between which intervenes a chamber, D. The inner wall incloses two rooms, E and F, arranged one above the other, and each having double ceilings, which inclose spaces *a*. At one end of the building is a chimney, I, which communicates with the rooms E and F through openings *b*, with the space D through openings *d*, and with the spaces *a* through openings *e*. In the outer wall A are the usual door-openings *f* and window-openings *i*, similar openings being arranged in the inner wall B, in order to furnish light and permit access to the rooms. The openings *f* are provided with doors of a character described hereinafter, and the window-openings in the outer wall are provided with sashes, as usual; but the openings in the inner wall are preferably unobstructed, in order to allow free communication between the rooms E and F and the space D. Additional communication between the rooms and space D is afforded by perforations *g* in the wall B, while communication between the rooms and the spaces *a* in the hollow ceilings is permitted by perforations *m*.

The natural draft of the chimney I is sufficient to cause a partial vacuum therein, as well as in the space D between the walls A and B, and in the spaces *a* in the ceilings, so that there is a constant tendency of the noxious odors in the rooms E and F to escape either into the chimney directly or else into the spaces D or *a*, and thence to the chimney. When the vapors are collected in the chimney they may be readily destroyed or rendered innoxious before being allowed to escape. Fresh air is preferably admitted to the building through a tunnel, H. (See dotted lines, Fig. 1.)

The doors J of my improved building are made double, and consist of inner sliding sections *n n'* and outer sliding sections *s s'*, the inner and outer sections of the door being independent of each other, so that a person desirous of leaving the building may first open the inner section and close it behind him before opening the outer section, thus preventing odors from the room escaping into the outer air. I prefer to make the inner section of the door of the box-like form shown, and to perforate it, so that the space inclosed by it may communicate with the space D and with the room E, odors from which may thus escape through the door into the space D even when the door is closed.

In applying my invention to a building with but a single wall, as in Figs. 5 and 6, I inclose the rows of windows with flues M, which communicate with the interior of the rooms of the building through the openings *t*, and also with a chimney, D, suitably located. I have found that this is the only effective mode of preventing the escape of the gases from a single-walled building, as the partial vacuum in the flues M tends not only to exhaust the vapors from the rooms of the building, but to induce a slight current of air inward through the joints of the windows, all tendency of the gases to escape therefrom being thereby prevented.

I claim as my invention—

1. A building having double walls or flues, inclosing passages which communicate with the interior of the apartment or apartments in the building, with the windows in the outer wall of the said passages, and with a chimney, I, as set forth.

2. The combination of the chimney I with an apartment having a double ceiling, the in-

terior of which communicates with the apartment and with the said chimney, as described.

3. The combination of the double-walled building with a door composed of outer sliding sections *s s'* and inner sliding sections *n n'*, of a box-like form, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ADAM W. LOUTH.

Witnesses:

HERMANN MOESSNER,

HARRY SMITH.