(No Model.) 2 Sheets—Sheet 1.

M. L. DAVIS.

HOSPITAL FOR PATIENTS WITH INFECTIOUS OR CONTAGIOUS DISEASES.

No. 413,360. Patented Oct. 22, 1889.

Fig. 1.

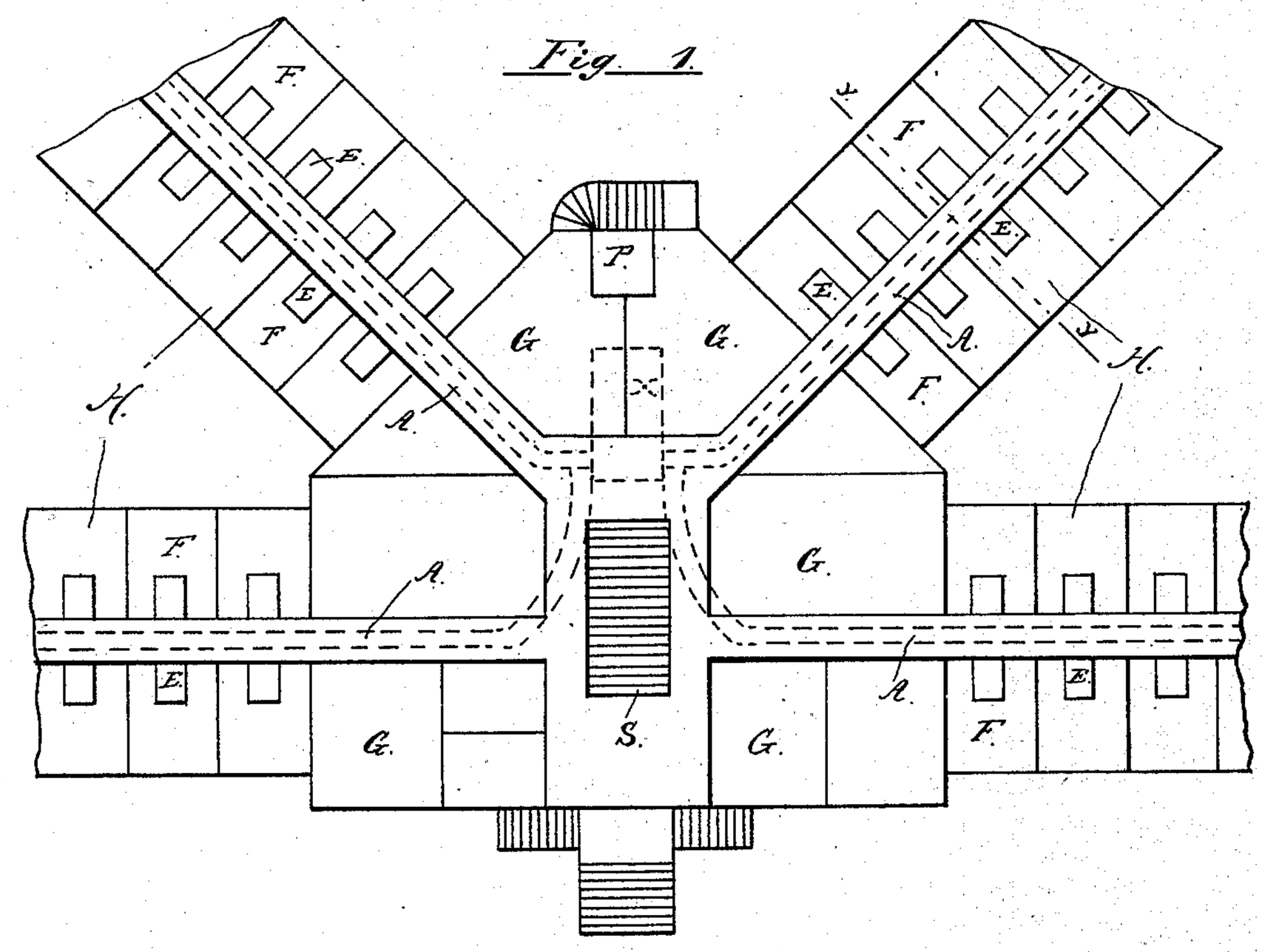
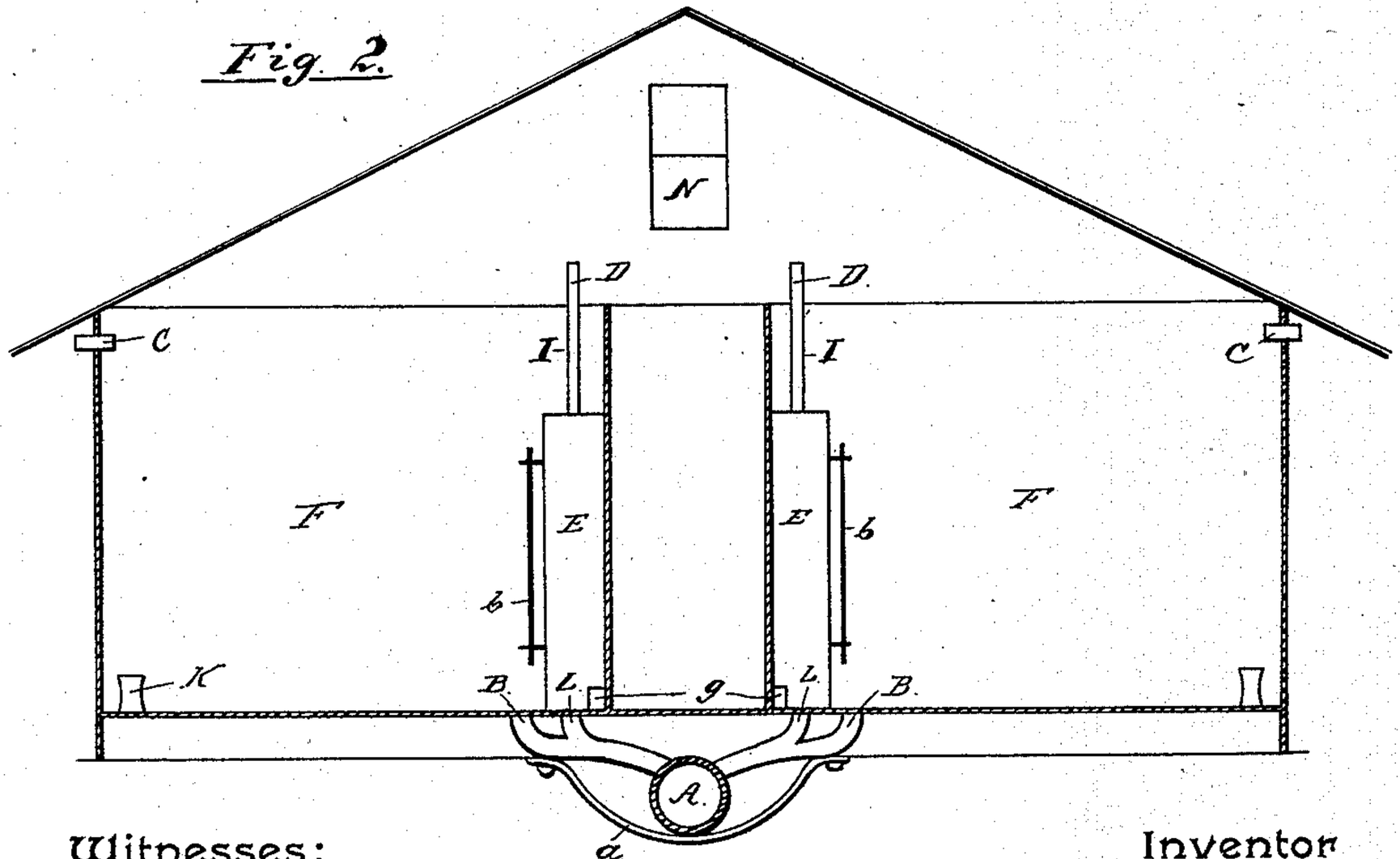


Fig. 2.



Witnesses:

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(No Model.) 2 Sheets—Sheet 2.

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Fig 3

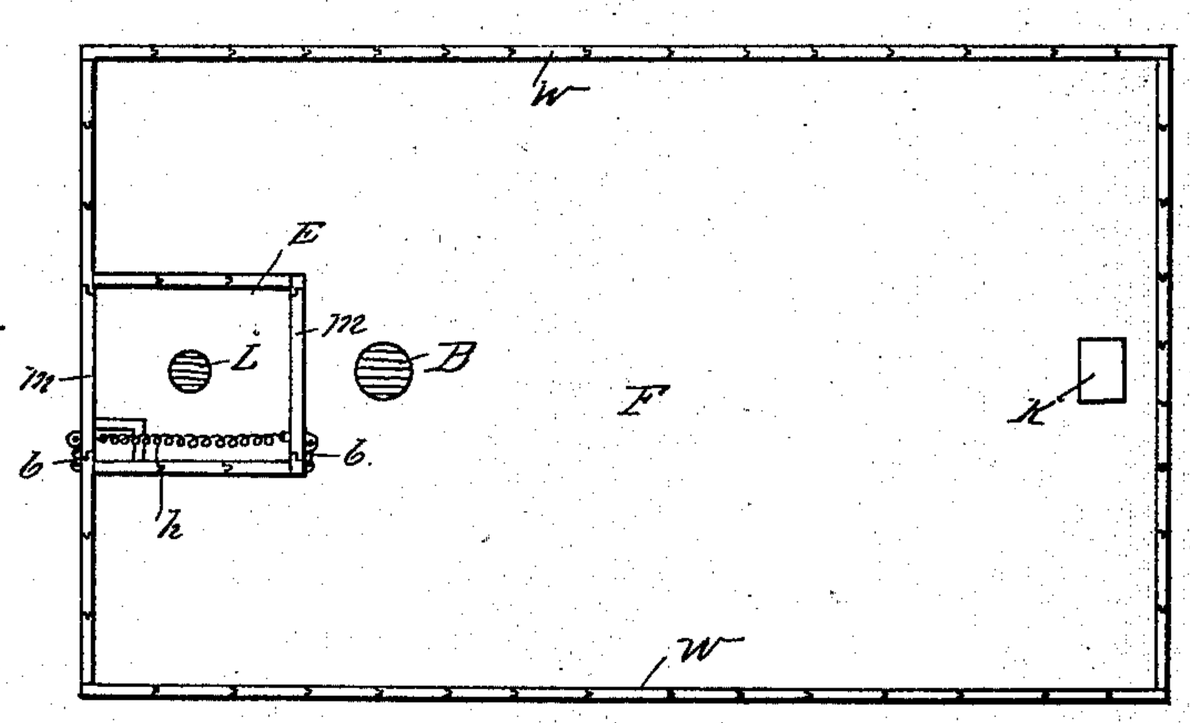


Fig 4

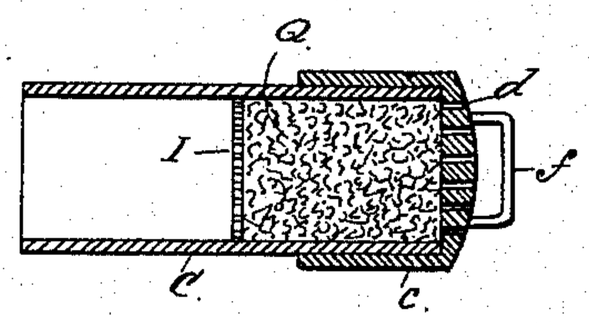


Fig. 6.

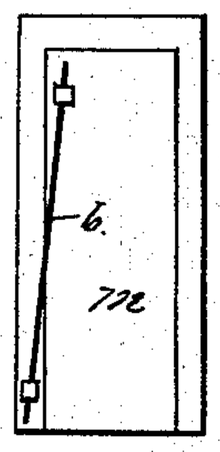
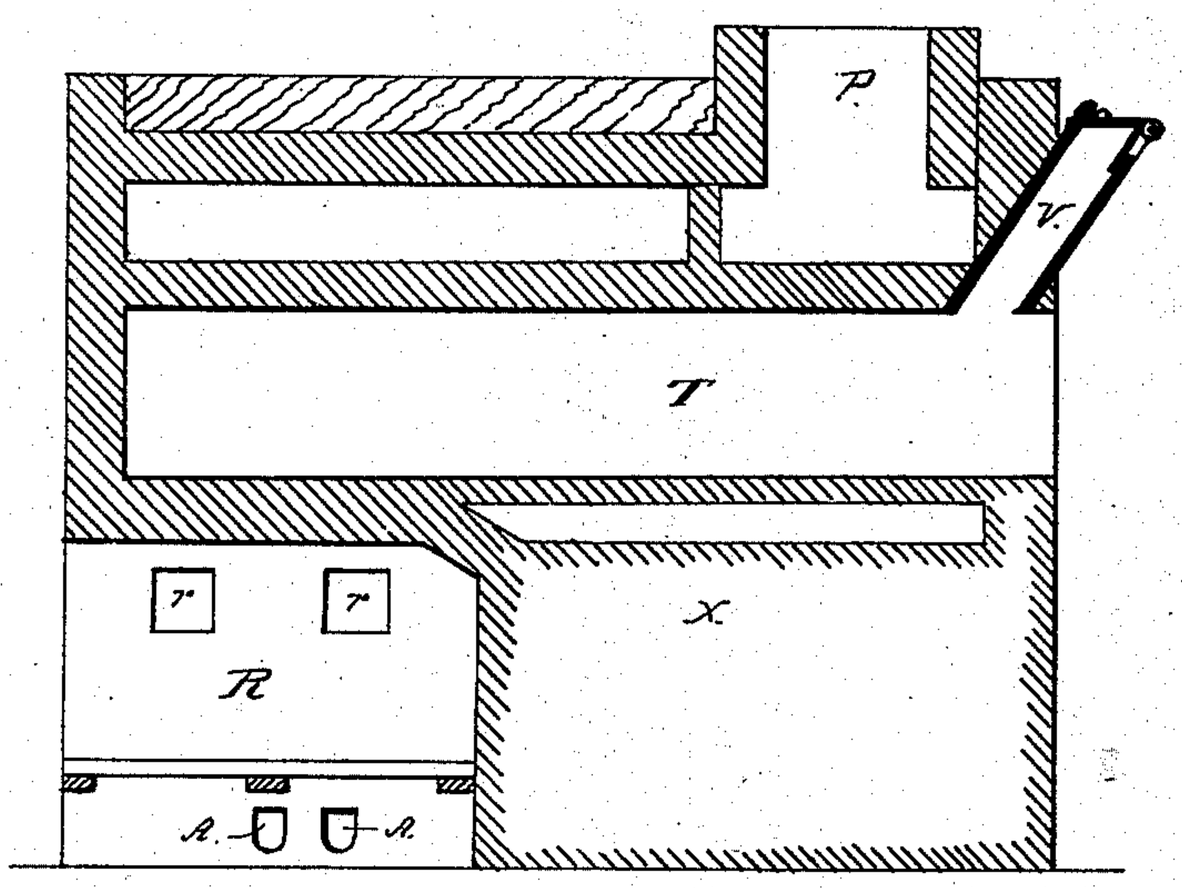


Fig. 5.



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UNITED STATES PATENT OFFICE.

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HOSPITAL FOR PATIENTS WITH INFECTIOUS OR CONTAGIOUS DISEASES.

SPECIFICATION forming part of Letters Patent No. 413,360, dated October 22, 1889.

Application filed September 21, 1888. Serial No. 285,972. (No model.)

To all whom it may concern:

Be it known that I, MILES L. DAVIS, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Hospitals for Patients with Infectious or Contagious Diseases, of which the following is a specification.

My invention relates to quarantine hospitals and hospitals for the treatment of infectious or contagious diseases; and my objects are, first, to completely isolate the patients from contact, either directly or indirectly, with all persons excepting the physicians and nurses having charge of them; second, to keep the atmosphere of the several rooms in a pure and healthful condition; third, to remove all disease-germs from the clothing of persons before they pass from the patient's apartment, and, fourth, to carry the excreta and impure air of the room out of the same and destroy the disease-germs contained therein without permitting them to be brought into contact with the outer air.

My invention consists in providing each room with a ventilating-chamber having spring-doors communicating with the patient's room and the corridor of the ward, supplying each vestibule with air through a supply-flue, producing ventilation by a current of air drawn from the vestibule through an eduction-flue, and in means for disinfecting all vessels carried from the room.

My invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the ground floor of a hospital in which my invention is used. Fig. 2 is a vertical section on the line *y y* of Fig. 1, showing the arrangement of the disinfecting and ventilating devices. Fig. 3 is a top view of one of the rooms, the ceiling being removed. Fig. 4 is a longitudinal section of one of the air-supply flues. Fig. 5 is a front view of a door of one of the ventilating-chambers. Fig. 6 is a side elevation of the furnace.

A hospital in which my invention may be used most economically and to the greatest advantage should be constructed with a main central building and wings H, radiating therefrom.

In Fig. 1 I show the plan of a building having four wings; but by widening the central building the number of these wings may be increased. The wings form the wards of the hospital, while the offices, physicians' and nurses' rooms, kitchen, and dining and mess rooms G G G are located in the central building. To permit more complete ventilation, the lower floor of the whole building is raised above the ground—say about four feet—and that space provided with a series of registers, which can be opened and closed in whole or in part, as may be desirable.

Each room F for the accommodation of patients is large enough to hold two patients, the floor, ceiling, and sides W being made of boards tongued and grooved, as shown in Fig. 3, and all joints are provided with air-tight packing.

Air is admitted to each room through a flue C, placed near or just under the ceiling, the outer end being protected by the eaves of the roof. This flue is divided into two sections by a perforated partition I′, the outer section being filled with cotton or other similar loose material Q, saturated with some disinfectant, through which the air filters as it passes into the room. The outer end of the flue is covered with a removable cap *c* to give access to the interior thereof. The end of this cap is also filled with perforations *d*, and is provided with a handle *f*.

A register is placed in the floor of the room, which opens into a flue B, connected with the main ventilating-flue A, extending lengthwise of the ward and supported under the joists of the corridor by straps *a*. Flue A extends to the center building and the discharge end is carried down and enters the side of the fire-box R of the furnace *x* beneath the fire-grate.

Each room F has a ventilating and disinfecting vestibule E, through which all persons pass in entering or leaving it. The vestibule is provided with two doors *m*, one opening into the corridor and the other into the room. Each door is provided with a spring *b*, and the faces of the jambs against which the doors rest are covered with a rubber cushion, that the joints about the doors may be rendered air-tight. In addition to the springs *b*, the two doors are connected by a spring *h*, fastened to the hanging-stiles or near to them.

But one of these doors is to be opened at a time, and the opening of one draws the other against the cushions of its jambs with increased pressure, preventing the passage of any air-current through the vestibule. These vestibules are provided with an inlet air-flue I at D, which is constructed in the same manner as the flue C and admits air from the loft M, which is supplied through the windows N. They are also connected with the ventilating-flue A by a flue L. The flue I is provided with a cut-off or damper, which is only opened upon certain occasions, as will be described. As a person passes from the room of the patient into the vestibule, the door between them is closed. He then opens the cut-off in the flue I, which produces a current downward through the flue L. In this way the air he has carried with him from the sick-room he has just left is carried from him down to the ventilating-flue A, and thence to the fire-box. Before passing on into the corridor of the ward he closes the cut-off.

Each room is provided with a metallic bucket K, which can be closed air-tight, and each vestibule with a vessel *g*, filled with some disinfecting-liquid. The bucket receives the excreta from the patient, and before being removed from the room is tightly closed. It is then carried into the vestibule and immersed in the vessel *g*. The bucket remains immersed long enough for its exterior to be thoroughly disinfected, and during that time the attendant disinfects himself by opening the cut-off of the flue I. The bucket is then carried to the furnace and emptied into the retort T through the chute V.

As the ventilating-flues A have their discharge ends located under the fire-grate, there is a strong current being constantly induced through them, which draws all contaminated air out of the rooms and vestibules and discharges it under the grate, whence it is drawn up into the fire and the disease-germs there destroyed. The products of combustion pass from the fire-box through the flues *r*, around the retort, which is heated to a white heat, and thence out through the stack P.

All kitchen-refuse and other waste, as well as the excreta from the rooms of the patients, is emptied into the retort, where it is consumed.

If desirable, there may be two or more stories to the building, those above being reached by the open iron stairway S.

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

1. The combination of a sick-room and a ventilating-vestibule connecting it with the exit therefrom, substantially as specified.

2. The combination of a sick-room, a vestibule connecting said room and the exit therefrom, an air-supply flue, and an eduction-flue, by which a current of air is produced through the vestibule, substantially as and for the purpose specified.

3. The combination, in a hospital, of an air-loft provided with windows or openings N, vestibules located between the rooms of the wards and the corridors, flues connecting the loft with said vestibules, and eduction-flues leading therefrom, substantially as and for the purpose specified.

4. The combination, with a sick-room, of a ventilating-vestibule provided with two doors, one communicating with the sick-room and the other with the corridor, and a spring connecting said doors, substantially as and for the purpose specified.

5. The combination, with a sick-room, of a ventilating-vestibule connecting the room with the exit therefrom, and a disinfecting-receptacle located in the vestibule, wherein disease-germs may be removed from all vessels taken from the rooms, substantially as specified.

6. The combination, with a sick-room, of a ventilating-vestibule provided with two doors, one communicating with the sick-room and the other with the corridor, a spring connecting said doors, an air-supply flue and an eduction-flue, by which a current of air is produced through the vestibule, and a cut-off or damper connected with the air-supply flue, all constructed and operating substantially as and for the purpose specified.

MILES L. DAVIS.

Witnesses:
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WM. R. GERHART.