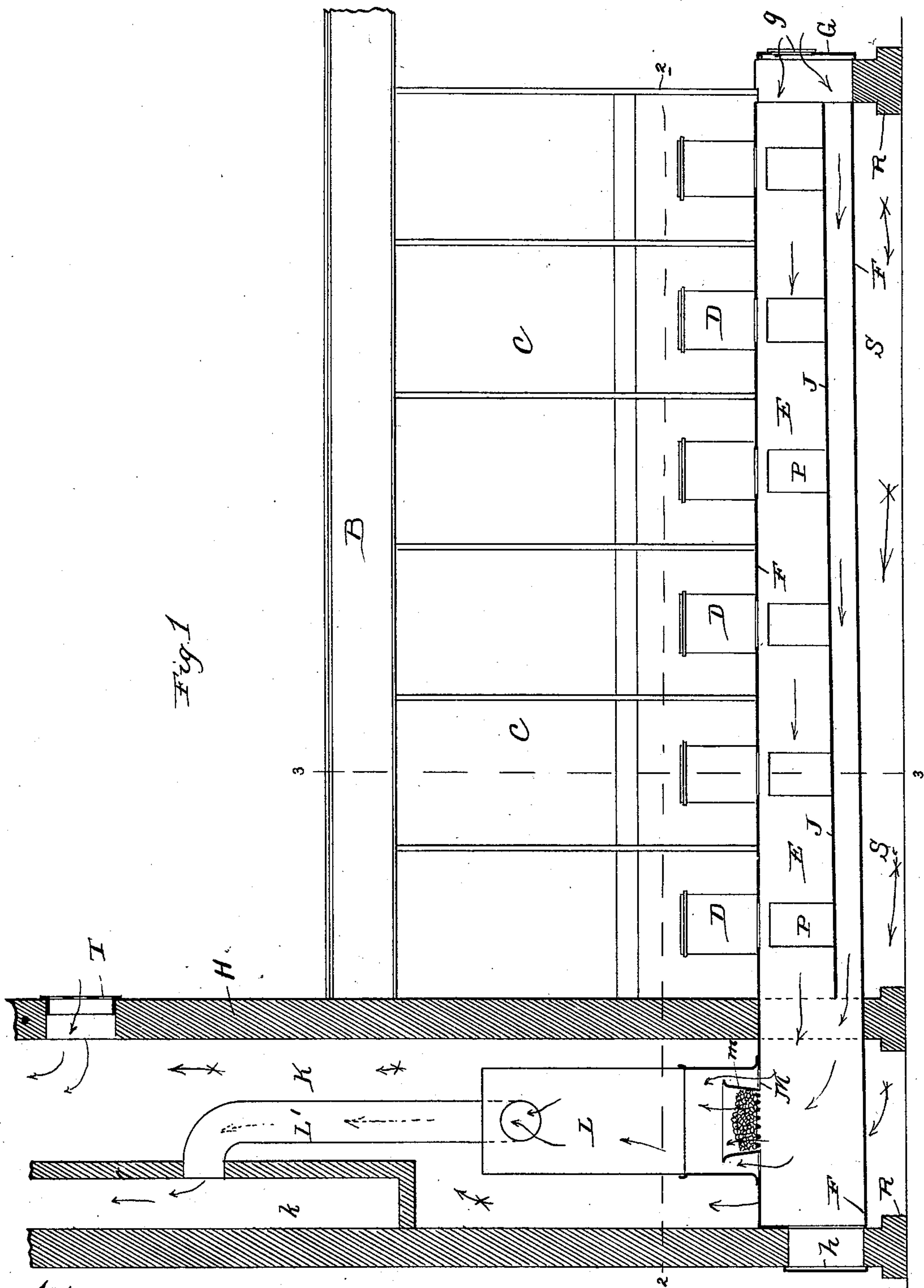


S. L. BAILEY.
DRY CLOSET.

No. 507,202.

Patented Oct. 24, 1893.



Witnesses:

Lew. C. Curtis
J. W. Munday

Inventor:

Sterling L. Bailey
By Munday, Curtis & Adcock,
his Attorneys.

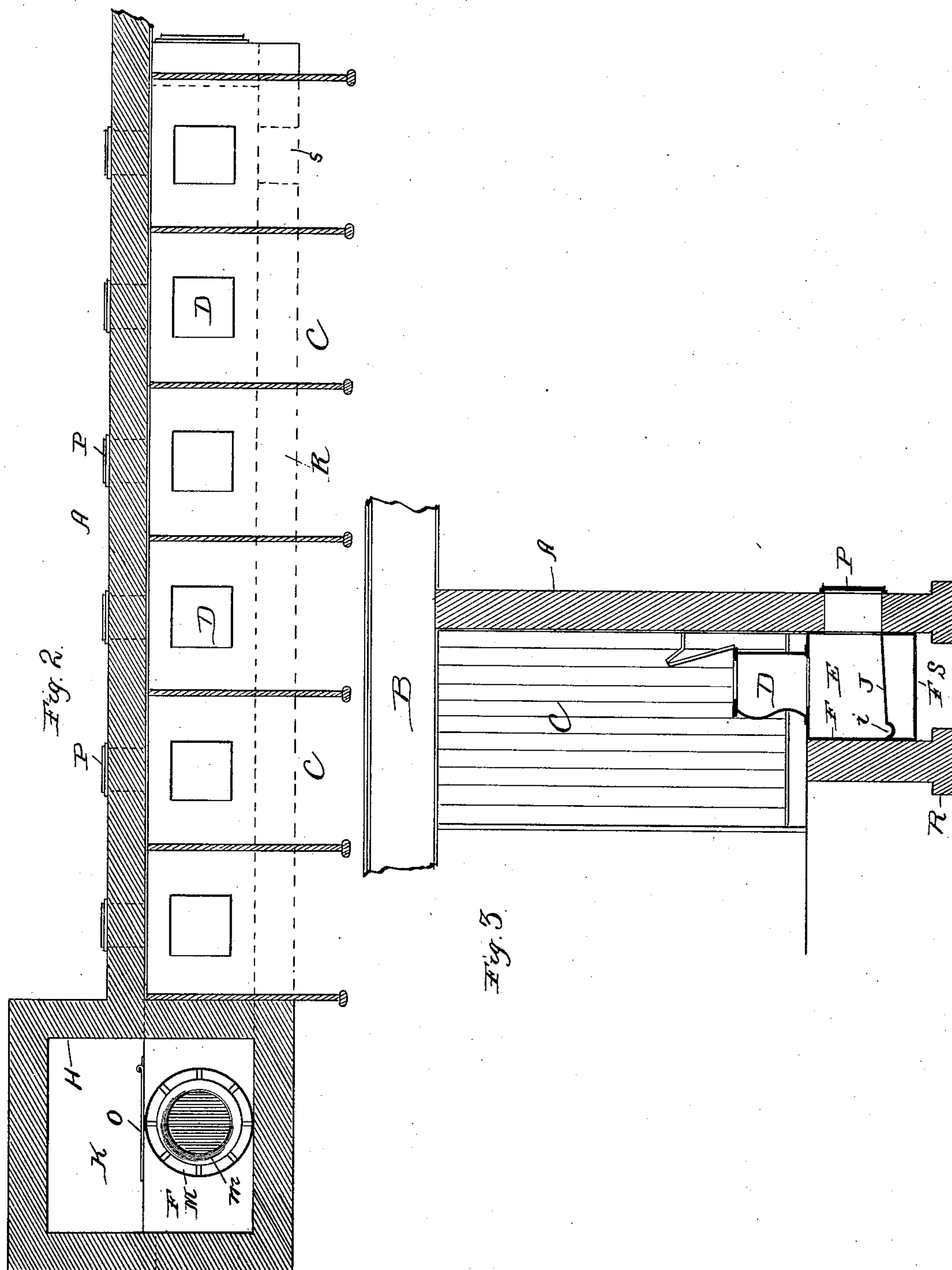
(No Model.)

2 Sheets—Sheet 2.

S. L. BAILEY.
DRY CLOSET.

No. 507,202.

Patented Oct. 24, 1893.



Witnesses:
Lew. C. Curtis
A. M. Munday

Inventor:
Sterling L. Bailey
By Munday, Curtis & Adcock.
His Attorneys.

UNITED STATES PATENT OFFICE.

STERLING L. BAILEY, OF CHICAGO, ILLINOIS.

DRY CLOSET.

SPECIFICATION forming part of Letters Patent No. 507,202, dated October 24, 1893.

Application filed July 13, 1891. Renewed September 8, 1893. Serial No. 485,086. (No model.)

To all whom it may concern:

Be it known that I, STERLING L. BAILEY, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Dry Closets, of which the following is a specification.

This invention relates to the construction of the horizontal fecal receiving vaults of that class of dry closets which are usually located in the basements of school houses and other buildings and which are built into and become in effect a part of the building, and also to the means for ventilating the same.

One main object of the invention is to obtain a perfect circulation of air through the vault, while at the same time such air is absolutely prevented from escaping into the rooms of the building, and is also, to a greater or less extent, so changed in its character by passing through the stack heater as to be deprived of its noxious character.

In the accomplishment of this as well as other features of the invention I employ the following construction: The air from the closet vault is conducted to the ventilating stack in which is a heater, but instead of discharging it without restraint into the stack and allowing it to enter the ventilating flue, all the closet air is compelled to pass through the heater, and from the heater into the smoke flue. By this construction the air is effectually excluded from the rooms of the building under all circumstances even though there be downward currents in the ventilating flue of the stack. The air from the closets thus compelled to pass through the heater is delivered thereto at the bottom of the fire pot, but lest a sufficient volume of air to properly ventilate the closet should not be able to pass through the fire pot, I provide in the heater a passage outside the fire pot, which will give vent to the air without allowing it to escape into the ventilating flue. This outside air passage should, preferably, carry the air into the combustion chamber of the heater and discharge it where it will receive the direct influence of the fire, so that all noxious gases may be burned, but instead of this it may be delivered into the smoke flue if otherwise it should have a tendency to cool the fire too much.

All the details of the invention are more fully described below, and illustrated in the accompanying drawings, in which latter Figure 1 is a vertical section of my improved closet and the adjacent parts of the building in which it is located, and Figs. 2 and 3 are sections of the same upon the lines 2—2 and 3—3 respectively of Fig. 1.

In the drawings A may represent one of the walls and B the floor of a school or other building provided with my improved closet.

C C represent a series of closet compartments in which are located the usual seats D D, arranged in line with each other and over the horizontal closet vault E. This vault is the portion of the closet to which my invention mainly relates, and is provided with a water tight and moisture proof floor of metal, so that all escape and soaking away of the fluid deposits into adjoining earth or masonry is entirely prevented. The preferred construction of this vault is illustrated, and consists of an angular metal tube F, as by this construction I not only obtain the moisture proof qualities desired but also a firm and strong floor upon which the seat hoppers D may be placed and supported. At one end the vault is provided with a door G, having a damper or register *g* through which the air for ventilating the vault is admitted and by which its volume may be regulated. At the other end the vault leads into the base of the ventilating stack H, and the tube F may be continued to the farther side of the stack, as illustrated, and form a support for the heater. At the end adjoining the heater is a close door *h* which may be employed in removing the ashes.

The vault may be provided with the usual diaphragm or horizontal transverse partition, as shown at J. But instead of constructing this partition of open work which will permit the fluid to percolate through, or of absorbent material which will absorb the fluids and hold them until they are evaporated, I purpose constructing the partition of close or imperforate metal, and to form at one side thereof a shallow gutter *i*, and to incline the partition slightly toward the side having such gutter. If now the partition be also slightly inclined from the air entrance toward the stack the fluid deposits will flow off and be discharged

under the fire pot where they will be subject not only to the current of air but also to heat from the fire. In case the partition is of any of the prevailing constructions, that is either
 5 open or absorbent, then the floor of the vault perhaps should be inclined toward the heater in the same way as the partition so that the fluids falling thereon will drain to the space under the heater where they will be subject
 10 to more rapid evaporation. Or both partition and floor may be given the same endwise inclination, as illustrated in the drawings.

In the stack K represents the ventilating flue and k the smoke flue, and the heater
 15 shown at L is intended to stimulate the draft in the former and to deliver all the air from the closet vault into the latter. For this purpose the heater is located in the base of the flue K, but the access of air from the vault
 20 to such flue is shut off by the extending of the tube F to the farther side of the flue, as shown at Fig. 1, or by some other suitable construction. The heater may rest directly upon the extended part of the tube F, and
 25 the latter is in that case provided with an opening immediately under the heater, as shown, to give passage to the air. The heater is provided with a fire pot m, but inasmuch as the fire pot may not be able to give pas-
 30 sage to the volume of air necessary to ventilate the vault properly especially when full of coal or ashes, or when the fire is low, I provide additional egress to the air by means of a passage M at the outside of the fire pot.
 35 This passage may remain open at all times, thereby insuring free and constant circulation. It preferably delivers the air into the heater just above the pot, so that if the fire is in operation the noxious odors will be con-
 40 sumed. The heater discharges the products of combustion into flue k by pipe L'. By the construction just described I not only stimulate the draft in flue K but also cause all the air from the closet to pass through the heater
 45 and from thence into the smoke flue which has no openings from the rooms, and thus all the air from the closet is compelled to pass out without being driven into the rooms. Even should there be downward currents in
 50 the flue K no part of the foul air from the closets would be forced into the living rooms of the building.

To obtain access to the heater for regulating the fire and for feeding the fuel, a door
 55 O is provided, as shown. The series of doors P may be provided with openings into the side of the vault and used when the deposits are to be removed. The metal tube or box forming the vault may be placed above the
 60 basement floor, but I prefer to support it in an elevated position between walls R, one of which may be the base of wall A, as indicated in the drawings. In the latter case the space S underneath may be utilized as a ven-
 65 tilating flue with any suitable inlet and supply such air to the base of the ventilating flue as

may be necessary to create an upward current from the fire in the heater. The air currents in this case are indicated by the crossed ar-
 70 rows. Should the heater be entirely out and an insufficient draft is had through the smoke flue k the heater feed door and the door O may be left open so that the air from the closet will then ascend the ventilating flue.
 75 The rooms of the building adjoining the ventilating flue may be provided with the ordinary registers, as seen at T.

Another advantage attending the use of the metal vault or box is that it permits of the burning of the deposits without risk to
 80 the building, and as this has become a customary way of disposing of the fecal matter after it has become dry in the closet, the value of this fire proof feature will be evi-
 85 dent.

I have not indicated in the drawings any inlet supplying air to the passage S, because the particular location of the inlet is a mat-
 90 ter which will be determined by circumstances. I prefer some location near the end of the vault at which the air is admitted to the interior.

I claim—

1. In a dry closet, a fecal receiving vault consisting of an angular metal box having
 95 an air inlet at one end and an air outlet at the other, in combination with a shaft for inducing a draft through the vault and carrying off the gases and foul air from said out-
 100 let, the box being extended into the base of the shaft, substantially as set forth.

2. In a dry closet, a fecal receiving vault consisting of an angular metal box having
 105 an air inlet at one end and an air outlet at the other, in combination with a ventilating shaft and a heater for said shaft, the box being extended into the shaft and supporting the heater, substantially as set forth.

3. The combination in a dry closet of a receiving vault, a ventilating flue, a heater for
 110 heating said flue discharging its products of combustion into a smoke flue separate from the ventilating flue, and said smoke flue, the only air exit from said vault or box being into the heater, substantially as specified.
 115

4. The dry closet consisting of a series of seats arranged above an air trunk having provision for a constant draft of air through the same, an impervious metallic floor placed
 120 between the fecal matter and the ground, and a ventilating flue, the metallic floor being extended beneath said flue, and means, as a heater, for inducing the continuous air current through the closet, whereby said closet and its surroundings are constantly ventilated
 125 and the ground prevented from becoming contaminated by the fluids and matter of the closet, substantially as specified.

STERLING L. BAILEY.

Witnesses:

EMMA HACK,
 H. M. MUNDAY.