(No Model.) 2 Sheets—Sheet 1.

E. HAYWARD.

SANITARY VENT AND DRAIN BOX.

No. 543,961. Patented Aug. 6, 1895.

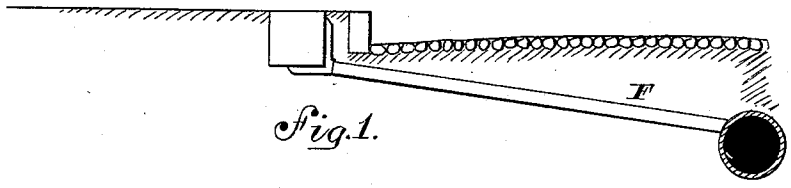

Fig. 1.

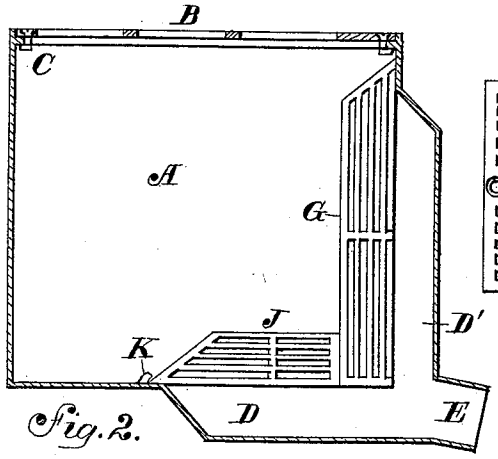

Fig. 2.

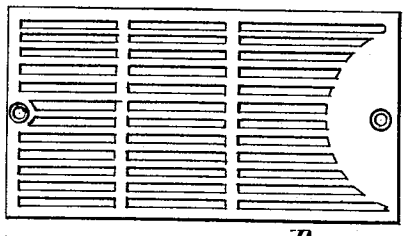

Fig. 3.

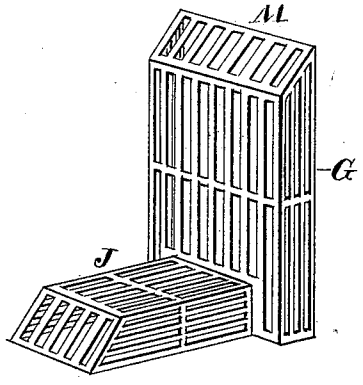

Fig. 4.

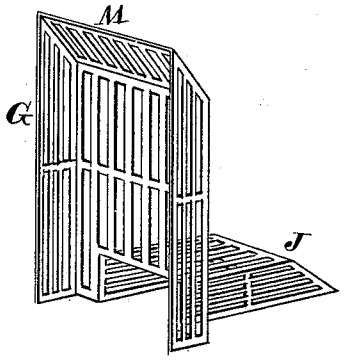

Fig. 5.

WITNESSES:

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Anthony A. Duffy

INVENTOR

Edwin Hayward

(No Model.) 2 Sheets—Sheet 2.

E. HAYWARD.

SANITARY VENT AND DRAIN BOX.

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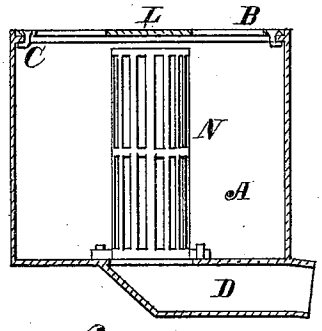

Fig. 6.

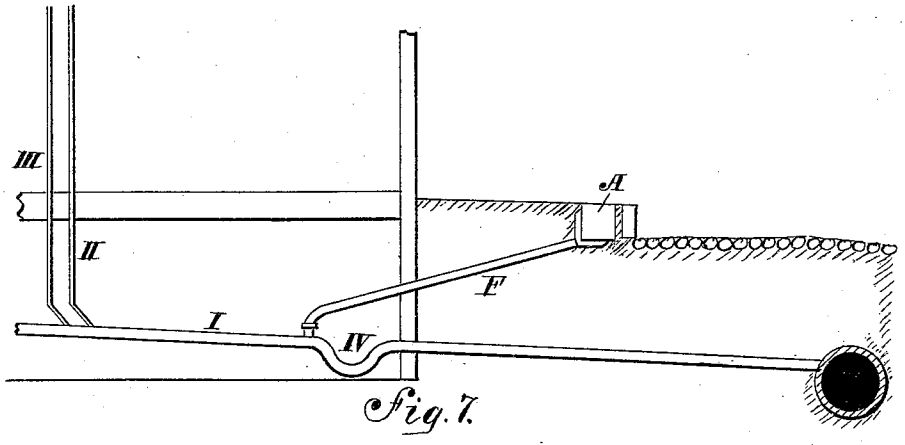

Fig. 7.

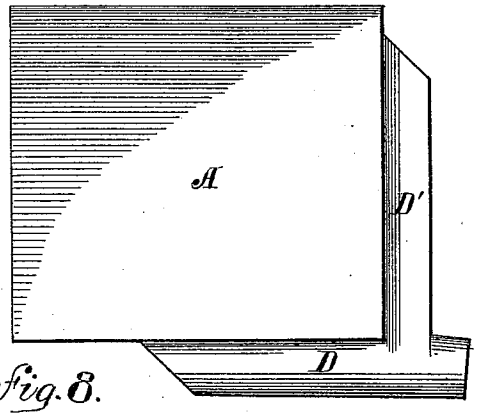

Fig. 8.

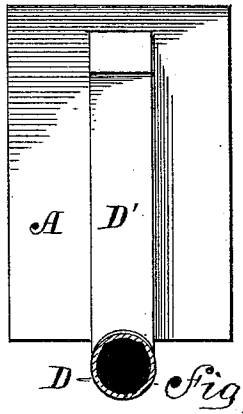

Fig. 9.

WITNESSES:

David H Williamson

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INVENTOR

Edwin Hayward

UNITED STATES PATENT OFFICE.

EDWIN HAYWARD, OF BROOKLYN, NEW YORK.

SANITARY VENT AND DRAIN BOX.

SPECIFICATION forming part of Letters Patent No. 543,961, dated August 6, 1895.

Application filed September 21, 1894. Serial No. 523,698. (No model.)

To all whom it may concern:

Be it known that I, EDWIN HAYWARD, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sanitary Vent and Drain Boxes, of which the following is a specification.

The object of the present invention is to construct a cheap, simple, and efficient sanitary vent-box, and especially as an improvement in the "fresh-air-inlet box," as it is termed, which is connected with the sewer-pipe at a point between the intercepting-trap and the waste and soil pipes for sewers, drains, and cesspools; and the principal features relate to the construction of the box, so that all accretions of dirt or foreign substances can be readily removed, and also to provide a means whereby positive ventilation will at all times be assured, although the box may be filled with accumulations.

Referring to the accompanying drawings, Figure 1 is vertical sectional view of a sidewalk and street, showing the vent-box connected with the sewer. Fig. 2 is a vertical longitudinal section of a vent-box; Fig. 3, a top view of the lid or cover of the box; Fig. 4, a perspective view of the exterior construction of the removable grid of the vent-box; Fig. 5, a perspective view of the interior of the removable grid; Fig. 6, a vertical longitudinal section of a vent-box, showing modified form of the removable grid; Fig. 7, a side elevation of a building, showing house connection and location of vent-box and fresh-air pipe; Fig. 8, a side view of the complete box, and Fig. 9 an end view of same.

It is of the utmost importance that the vent-box connected with the air-tube should always be kept open and positively free to admit fresh air or to remove foul gases from the sewer-pipe wherever houses are connected directly with the sewer and the fresh-air inlet must necessarily be located in the sidewalk.

In Fig. 7 I show a side elevation which illustrates the form of use most called for in large cities, wherein I is the sewer-pipe; II, the soil-pipe; III, the waste-pipe, and IV the trap in the sewer-pipe.

In constructing my invention I prefer to use a vent-box A, provided with an ordinary-covered grating B, held in place by means of bolts C or otherwise. A channel D is formed in the base, terminating at one end in a tube E, to which the vent-pipe F from the sewer or sewer-pipe is connected. A vertical channel D′ is also formed at one end, the lower end of which terminates at the tube E. Within the box thus constructed I place an L-shaped removable grid composed of a vertically-disposed portion G. The upper end is sloping, as shown, and the sides and top of this part of the grid are provided with suitable openings or gratings, as shown. The horizontal part J of the grid is preferably cast with the vertical part, or it may be separable and attached thereto, and its rear end rests against a lug K, which is cast with or secured to the bottom of the box.

The sides and top of the horizontal portion J are also grated, and it will be observed that it entirely covers the channel D of the box and that the vertical limb of the grid covers the vertical channel D′, so that the gases which enter the channel from the vent-pipe F will pass up into the box and all moisture within the box will find its way down into the channel D and thence to the sewer-pipe or sewer, and the connecting vent or drain pipe guarded against obstruction.

As these boxes are located at the edges of the sidewalk or at such places as are liable to receive dirt, the vent-pipe becomes clogged and it is difficult to remove the deposits, while at the same time any deposition of solid matter, even though ordinarily grated, will prevent the gases from escaping and fresh air from entering, it is desirable to so arrange the grid that it will serve as a vent, even though the box should be filled with matter. This is accomplished by the grating M at the upper end of the vertical portion G, through which the sewer-gas can escape in case the bar is filled with accretions.

I do not confine myself to any special form of grid and I illustrate a modified structure in Fig. 6, in which it is shown in the form of a vertical cylinder N, provided with grated sides and open top and having projecting lugs at the base, which pass under and are held by cleats secured to the bottom of the box, or by simply allowing the cylinder to rest on the bottom over the open-mouthed channel. In

either case I make the grid removable to permit the box and channel to be cleaned.

It is desirable to have the vent-pipe connection to vent-box brought close to the top to prevent dust and sweepings of sidewalk from choking the pipe.

If the connection of vent-pipe to box were made at the top and outside, the pipe would be an obstruction to the fitting of heavy paving neatly around the box.

The inside movable part forming the channel "grid" is designed as a continuation of the vent-pipe entering at the bottom of box. It is made to drop into and set loose in place that it may be readily removed to clean the connecting-vent, which, being a straight pipe, is easily done without disturbing box or pavement or cutting of pipe.

If pipe were brought up to top of box at outside, it would be necessary to use a bend in connection with it to carry the pipe down vertically away from pavement and another to give the pipe required horizontal direction. This turn would present a difficulty in clearing of obstructions, which is obviated by the method of bringing the vent to top of box at the inside, as described.

It will be observed that the grating B, directly above the cylinder N, is cast without openings, as shown at L, so that dirt and other foreign substances will not fall into the cylinder.

What I claim as new is—

1. A vent box provided with a horizontal channel in its base and a vertical channel in one end, having within an L-shaped vent and drain grid covering said channels, the vertical portion thereof having gratings on its sides and top, and the horizontal portion having gratings on the top and sides, substantially as set forth.

2. A vent box, provided with a horizontal channel in its base and a vertical channel in one end, having within a removable L-shaped vent and drain grid, adapted to cover said channels, substantially as herein set forth.

3. A vent box having a horizontal channel in its base, and a vertical channel in one of the end walls, said channels terminating in a pipe, and an L-shaped grid within said box, covering said channels, substantially as set forth.

4. A vent box having a channel in the bottom and in one of the end walls which channels terminate in a pipe, in combination with a removable L shaped grid, the horizontal portion of which covers the channel in the bottom, and the vertical portion covering the channel in the end wall having gratings at its upper end, substantially as set forth.

5. A vent box having in the bottom a channel, and at one end a vertical channel both uniting at a drain or vent pipe in combination with a removable L shaped grid, covering said channels substantially as set forth.

Signed at Brooklyn, in the county of Kings and State of New York, this 22d day of August, A. D. 1894.

EDWIN HAYWARD.

Witnesses:
F. L. BROWN,
GEORGE W. WOOLLEY.