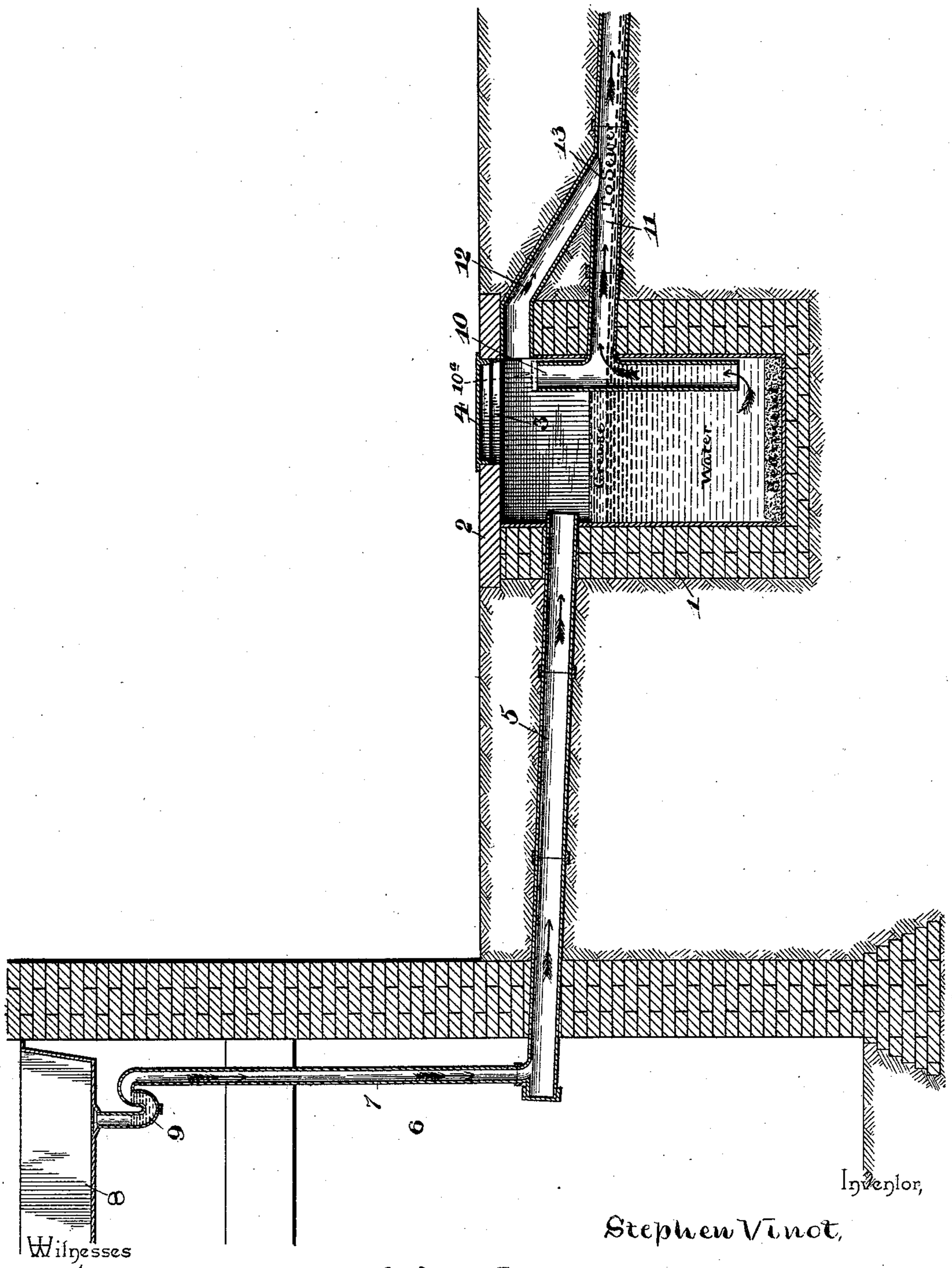
(No Model.)

S. VINOT.

SYSTEM OF VENTILATING GREASE TRAPS.

No. 560,335. Patented May 19, 1896.



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SYSTEM OF VENTILATING GREASE-TRAPS.

SPECIFICATION forming part of Letters Patent No. 560,335, dated May 19, 1896.

Application filed January 25, 1896. Serial No. 576,890. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN VINOT, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful System of Ventilating Grease-Traps, of which the following is a specification.

This invention relates to a new and useful system of ventilating grease-traps for sanitary purposes. The present system of ventilating grease-traps, used in connection with dwellings to receive the waste-discharges therefrom, generally consists in employing a vent-pipe, which is attached to the crown of the gooseneck stench-trap immediately below the sink or other basin in the dwelling. This vent-pipe extends from its connection with the stench-trap upward through the roof of the building and serves to carry all of the gases and vapors which accumulate or generate in the grease-trap into the outer air. As most of these gases and vapors are of a poisonous character and carry disease-breeding germs it is very undesirable for the same to be carried into the outer air, as just described, for the reason that most grease-traps having waste-pipe connections with sinks and other basins in dwellings are in use during the daytime, and during this time the poisonous gases and vapors are pouring into the outer air through the vent-pipes. These gases and vapors ordinarily rise but a few feet above the upper ends of the vent-pipes; but the heavy and dense night air descending toward the earth's surface carries the gases and vapors downward and forces the same into houses, and it will therefore be obvious that the present method of ventilating grease-traps provides an arrangement whereby the atmosphere of an entire city is poisoned.

The main and primary object of the present invention is to obviate the disadvantages to the present method of ventilating grease-traps and to provide simple and efficient means for circulating all the gases and vapors which accumulate and generate in the grease-trap directly into the sewer, which is the natural conduit for such gases or vapors.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

The drawing is a vertical sectional view illustrating the improved system of ventilating grease-traps.

Referring to the accompanying drawing, the numeral 1 designates a grease-trap built within the ground at a convenient point between a dwelling and the sewer, and inclosed at the top by a suitable covering 2, arranged flush with the grade and provided therein with a manhole 3, closed by an iron manhole-cover 4, which provides ready access to the trap for the purpose of cleaning the same of accumulations of sediment and the like whenever desired. The grease-trap 1 has extended through one side wall thereof near its upper end one end of the main waste-pipe 5, which has a downward inclination toward the trap 1 to provide for a natural flow of liquids thereinto, and which also extends at one end into the cellar of a dwelling 6. The end of the main waste-pipe 5, opposite its connection with the trap 1, has fitted thereto the lower end of the house waste-pipe 7, the upper end of which is fitted to the sink or other basin 8 within the dwelling. The said house waste-pipe 7 is provided directly below the sink or other basin 8 with an ordinary gooseneck stench-trap 9, which is constantly sealed with water and thereby absolutely prevents gases from "backing up" into the sink or basin 8.

Arranged within the grease-trap 1, at the side opposite the entrance of the pipe 5 into the trap, is a vertical overflow-pipe 10. The vertical overflow-pipe 10 is open at both ends and has its lower open end project to a point within the trap below the center thereof and its open upper end to a point above the center of the trap and near the top thereof. The upper end portion of the pipe 10 is practically always disposed above the level of the liquid within the trap, or, in other words, is disposed above the plane of the sewer-pipe 11. The sewer-pipe 11 extends through the wall of the trap 1, opposite the pipe 5, and joins with the pipe 10 at a point intermediate of the ends of such pipe, and from its point of juncture with the pipe 10 the pipe 11 declines to the ordinary sewer and provides for a natural drain of the liquid from the trap 1 to the sewer.

In connection with the sewer-pipe and the trap is employed an inclined ventilating-pipe 12, the upper end of which pipe is fitted in one side wall of the trap 1 and communicates with the interior top portion of the trap directly above the upper end of the vertical overflow-pipe 10. The said pipe 12 declines from the trap 1 to the sewer-pipe 11 and connects with said sewer-pipe at a point 13 between the pipe 10 and the sewer with which the pipe 11 connects.

It will be understood that the grease-trap 1 forms a receptacle for the liquid-discharge of the waste-pipe 5, and while the major portion of the contents of the trap is water it will be noted that a certain amount of grease will necessarily collect at the surface of the water, and sediment will also accumulate within the bottom of the trap below the level of the water; but the accumulation of the sediment will not interfere with the free flow of liquid into the lower end of the overflow-pipe 10, which conducts the liquid into the sewer-pipe 11 by simply the liquid rising within the pipe 10 to seek its own level, as clearly illustrated in the drawing. The flow of water through the pipe 11 and past the connection of the pipe 12 therewith will necessarily create a suction or draft in the said pipe 12, which will be of sufficient strength to draw the gases and vapors from the upper portion of the trap through the ventilating-pipe and into the sewer-pipe, which forms a natural conduit for the evacuation of poisonous excretions. Furthermore, the constant draft in the pipe 12 lowers the temperature of the interior of the trap, thereby retarding the formation of gases, assisting in carrying off solid particles, and at the same time promoting cleanliness.

In connection with the extension of the pipe 10 above the plane of the sewer-pipe 11, it is to be observed that the upper open end of said pipe is preferably temporarily covered by a removable cap 10^a, which cap is removed from the upper end of the pipe 10 to uncover such upper end when it is desired to clean the pipe by plunging out whatever sediments may have been forced therein while cleaning the grease-trap, as will be readily understood by those skilled in the art.

A feature of importance to note with respect to the operation of the grease-trap, when the sediments have so accumulated as to prevent the discharge of the trap through the sewer-pipe 11, is that the water and grease will then rise to such a level as to cover the end of the waste-pipe 5 leading into the grease-trap, and when the water and grease have reached this level the sink 8 will refuse to freely discharge its contents into the pipes 7 and 5 and will remain encumbered or clogged long enough to indicate to the occupants of the dwelling that the grease and sediments must be removed from the grease-trap. By reason of the fact that when the water and grease in the trap cover the pipe 5 the sink 8 will refuse to relieve itself it will be obvious that the said water and grease will at no time rise to such a level as to completely fill the air-chamber within the top portion of the grease-trap and enter the ventilating-pipe 12.

From the foregoing it is thought that the construction and many advantages of the herein-described ventilating system will be readily apparent to those skilled in the art, and it will be understood that changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a system of ventilating grease-traps, the combination of the trap, the main waste-pipe leading into one side of the trap near its upper end, a sewer-pipe extending from the side of the trap opposite the waste-pipe, and a ventilating-pipe leading from the upper portion of the trap and communicating with the sewer-pipe at a point beyond the trap, substantially as set forth.

2. In a system of ventilating grease-traps, the combination of the trap, a main waste-pipe leading into the trap near its upper end, a vertical overflow-pipe arranged within the trap and extending above and below the horizontal center thereof, a sewer-pipe leading from the trap and joined with said vertical overflow-pipe at a point intermediate of the ends of said pipe, and a ventilating-pipe communicating at one end with the upper portion of the trap directly above the upper end of said overflow-pipe and connected at its other end with the sewer-pipe at a point beyond the trap, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

STEPHEN VINOT.

Witnesses:
E. D. LEAVITT,
B. F. HENDRIX.