A. C. FREEMAN, Jr.

SOIL PIPE GERM TRAP.

APPLICATION FILED SEPT. 29, 1916.

1,230,473. Patented June 19, 1917.

Fig. 1.

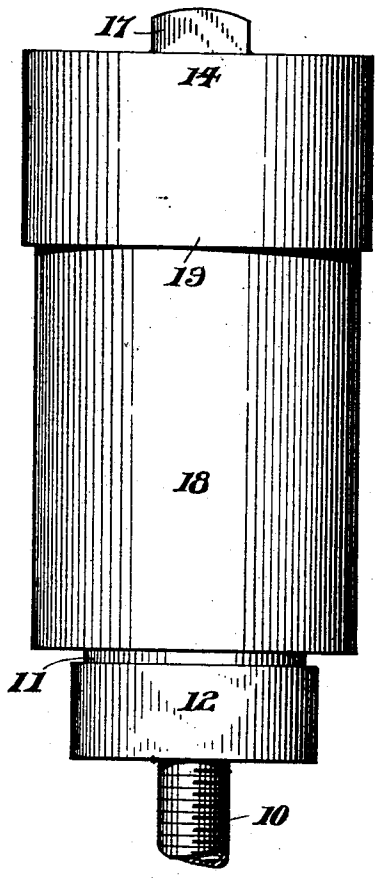


Fig. 2.

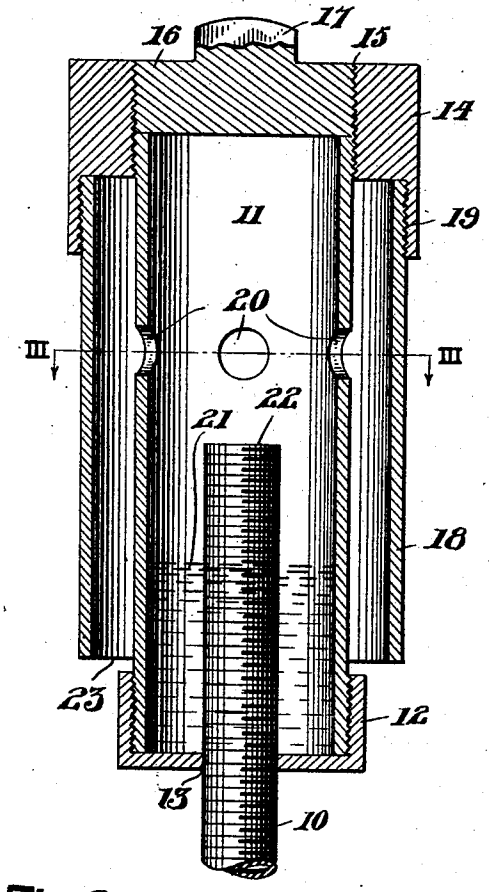


Fig. 4.

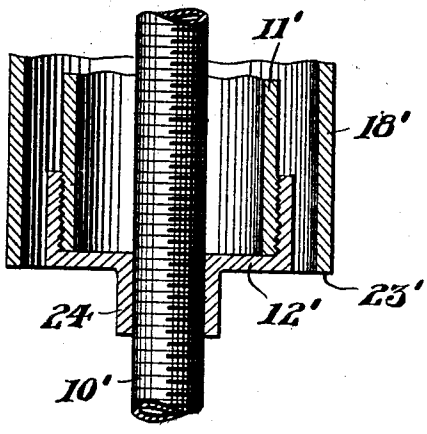
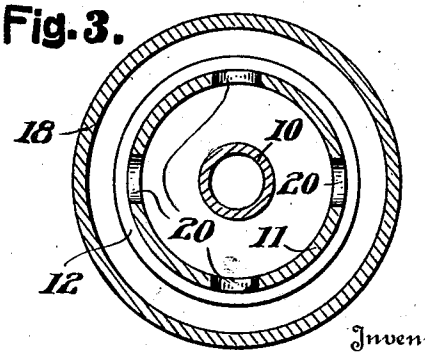


Fig. 3.



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SOIL-PIPE GERM-TRAP.

1,230,473. Specification of Letters Patent. Patented June 19, 1917.

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To all whom it may concern:

Be it known that I, ARTHUR C. FREEMAN, Jr., a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Soil-Pipe Germ-Traps, of which the following is a specification.

This invention relates to certain new and useful improvements in soil pipe germ traps.

In the usual construction of sewerage systems in buildings, such as dwelling houses, the soil or vent pipe therefrom ordinarily extends vertically through the building provided with an open upper end out of which germs and other bacteria life may readily find passage endangering the health of persons in the neighborhood. The present invention is designed for providing a germicide for such soil pipe outlets, the device being easily and inexpensively manufactured and readily installed.

A further object of the device is the provision of a germ killer adapted for ready attachment to any outlet member from which germs may escape, the arrangement being such as to allow for the ready disassembling of the structure.

A still further object of the invention is to provide a device adapted to insure the health of the community against disease germs which are ordinarily allowed to freely pass into the air, the device being readily attached to vent and other pipes which are now in use in connection with sewerage and similar drainage systems.

With these general objects in view and others that will 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 in the accompanying drawings, and then claimed.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:—

Figure 1 is a side elevation of the device operatively positioned upon the end of a soil pipe.

Fig. 2 is a central vertical longitudinal sectional view thereof.

Fig. 3 is a horizontal transverse sectional view taken upon line III—III of Fig. 2, and,

Fig. 4 is a sectional view of the lower portion of the device illustrating a slightly modified form of means for attaching the same to a soil pipe.

It being understood that the device may be attached to any outlet, drainage or other similar pipe, the same is herein illustrated in connection with a vertical soil pipe 10 of the usual form vertically projecting above the roofs of buildings having a drainage sewer system. The device provides an inner tubular casing or receptacle 11 having a bottom cap 12 exteriorly threaded thereon and having a centrally threaded opening 13 adapted for attachment to the free end of the pipe 10, which latter is externally screw-threaded as shown.

A cylindrical head 14 is provided with a centrally threaded opening 15 exteriorly mounted upon the upper exteriorly threaded end of the casing 11. A closure plug 16 is threaded within the opening 15 having a rectangular wrench-holder portion 17 upon its outer side whereby the plug may be securely seated upon the upper free end of the casing 11 serving as a lock nut for retaining the head 14 upon the said casing and the device in its assembled arrangement.

An outer casing or petticoat 18 is arranged circumferentially of the inner casing 11 having its upper end exteriorly threaded and engaged within an internally threaded depending flange 19 of the said head 14. The casing 11 is provided with a plurality of openings 20 while a germicidal fluid 21 is positioned within the casing 11 surrounding the pipe 10 but not the said head, immersing the upper free end 22 of the said pipe. It will be understood that the plug and petticoat form a weather protector for the casing preventing rain and wind from entering the openings 20.

The simplicity of the device as well as the manner of assembling and disassembling the same will be apparent from the above detailed description thereof while its attachment to the pipe 10 in an operative position when so assembled will also be fully apparent. Any bacteria or microbes traveling upwardly in the pipe 10 must come in contact with the germicide 21 when crawling down the outer surface of the pipe 22, whereby they will be killed by the said fluid before gaining a footing upon the casing 11 so as to pass outwardly through the openings 20. The plug 16 may be removed when desired

to replenish the fluid 21 while the usual function of the pipe 10 as an exit for gases and a vent is not interfered with by the present device as free passage through the open end 22 of the pipe is constantly maintained with the openings 20 and thence downwardly beneath the lower edge 23 of the petticoat 18.

It will be seen that in the above construction the petticoat 23 terminates above the point of attachment of the device with the pipe 10 whereby a wrench may be applied to the cap 12 for removing the device from or attaching the same to the said pipe.

A slightly modified form of the invention is set forth in Fig. 4 in which the soil pipe 10′ has the device mounted thereon by means of a threaded boss 24 carried by the bottom cap 12′ of the inner casing 11′. In this construction it will be noted that the petticoat 18′ has its lower edge 23′ lying flush with the lower face of the cap 12′ while the boss 24 which projects therebeneath is adapted for receiving a wrench for the purpose of turning the device relatively upon the pipe 10′.

While the forms of the invention herein shown and described are what are believed to be the preferred embodiments thereof, it is nevertheless to be understood that various forms, modifications and arrangements of the parts may be made without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

1. A germicide means for sewer vents comprising a germicide receiving casing removably attached thereto and having outlet openings above the level of the said vent, a protecting petticoat removably attached surrounding the said casing, and a removable closure means for the upper end of the latter.

2. A germicide means for sewer vents comprising a germicide receiving casing removably attached thereto and having outlet openings above the level of the said vent, a head exteriorly threaded upon the upper end of the casing, a removable closure plug threaded within the said head seated upon the free end of the casing, and a depending petticoat carried by the head surrounding the casing.

3. A germicide means for sewer vents comprising a germicide receiving casing removably attached thereto and having outlet openings above the level of the said vent, a head exteriorly threaded upon the upper end of the casing, a removable closure plug threaded within the said head seated upon the free end of the casing, an annular internally-threaded depending flange carried by the outer edge of the said head above the said openings, and a tubular petticoat having threaded engagement with the said flange extending below the level of the said openings.

4. A device of the class described comprising in combination with a soil pipe, a tubular casing surrounding the said pipe and having outlet openings above the level of the upper open end of the pipe, a cap threaded upon the lower end of the casing removably attached to the said pipe, a germicidal fluid arranged within the casing below the level of the free end of the pipe, a head threaded upon the casing, a lock nut for the said casing having threaded engagement with the head, and a depending storm protecting petticoat carried by said head.

5. A device of the class described comprising a threaded outlet pipe, a cap having a depending boss in threaded engagement with the said pipe, a germicide receiving casing carried by said cap, and a depending storm protecting petticoat attached to the said casing and having its lower end substantially flush with the said cap.

In testimony whereof I affix my signature.

ARTHUR C. FREEMAN, JR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."