No. 874,930. PATENTED DEC. 31, 1907.

A. L. BOWER.

ANTISIPHON TRAP.

APPLICATION FILED APR. 24, 1907.

Fig. 1.

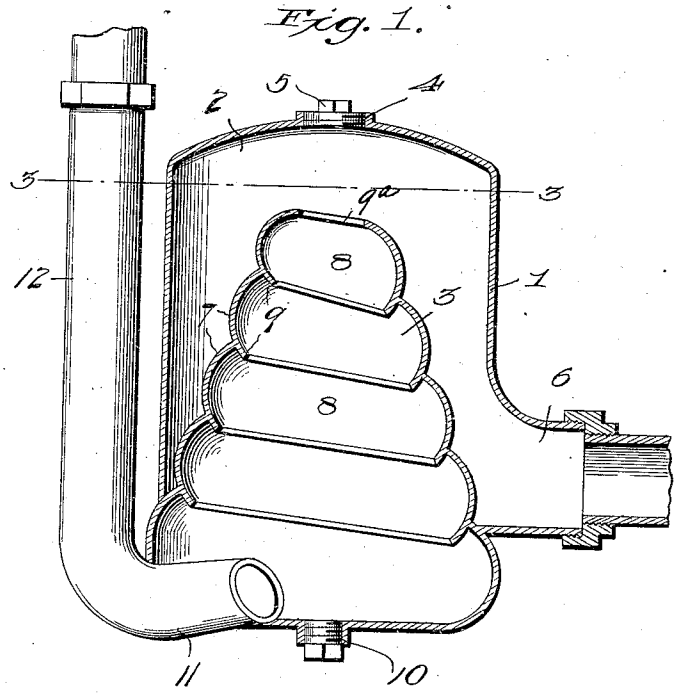
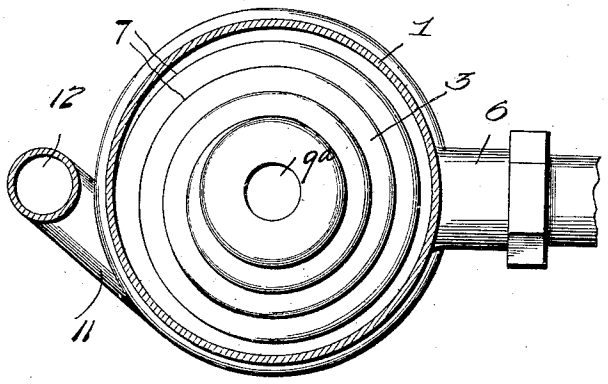


Fig. 2.



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ANTISIPHON-TRAP.

No. 874,930. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed April 24, 1907. Serial No. 370,053.

To all whom it may concern:

Be it known that I, ADOLPHUS L. BOWER, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented certain new and useful Improvements in Antisiphon-Traps, of which the following is a specification.

This invention relates to automatic traps of the fluid-seal type, and has in view the provision of a simple and practical construction of anti-siphon trap for use in connection with sinks, basins or other places.

To this end the invention contemplates a novel construction of trap wherein a perfectly free passage will be provided for waste water and waste products while at the same time retaining a quantity of water in a sealing chamber in such a manner that after the siphon is broken the trap is effectually resealed and thus prevent any escape of the sewer gas.

With these and other objects in view which will readily appear to those familiar with the art, 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.

In the accompanying drawings, Figure 1 is a central vertical sectional view of a trap embodying the present invention. Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1.

Like references designate corresponding parts in the several figures of the drawings.

The improved trap, constituting the present invention, includes in its general organization a main outer trap casing 1, preferably of a dome-like formation, and of a sufficient size and capacity to provide therein an ample or capacious air space 2 within which air space is arranged the distinctive part of the present invention, namely the inner sealing cone 3. The said outer trap casing is provided in the top thereof with a top clean-out hole 4 which is normally closed by a plug or equivalent closure 5, and at its lower end, the said casing is provided with a laterally projected outlet neck 6 to which is coupled the discharging pipe leading to the sewer or other discharging point.

The inner sealing cone 3 projects upwardly through the bottom of the casing 1 into the air space 2 thereof and extends nearly the full height of such air space, and said cone essentially consists of a hollow conical chamber provided in its shell or wall with a continuous series of spiral corrugations 7 producing within the wall or shell of the cone spirally arranged grooves or channels 8 leading from the wide base of the cone to its upper end or apex, at which latter point the cone is provided with an outlet opening 9^a in communication with the air space 2. At the lower edge of each corrugation 7, and within the body of the cone, the latter is provided with inwardly and downwardly projecting baffle lips 9 overhanging the top edge of each groove or channel 8 for a purpose to presently appear. Furthermore, in the wide base or bottom thereof, the cone 3 is provided with a bottom clean-out opening 10 closed by a plug or equivalent closure, and said base or bottom of the cone also has tangentially connected therewith, as at 11, a tangential pipe connection for the inlet pipe 12 which leads the waste into the trap.

It will be observed that the cone 3 leaves the large air space 2, and by reason of the spiral grooves 8 winding from the bottom to the top of the cone, the flow of waste entering through the tangential inlet 11, is given a whirling motion and therefore the waste water is raised to the top of the cone with a scouring or whirling motion, and as the outlet 6 is placed at the lowest point of the outer casing, the waste freely passes through said outlet without obstruction.

The inlet at the bottom of the cone is the same size as the top outlet opening 9^a, and it will be observed that with the seal formed in the trap, and a vacuum put on the same, the large air chamber, and the spirally corrugated cone containing a large body of water at the bottom thereof, will effectually hold the seal caused by the vacuum produced in the outlet pipe by the water passing through the waste lines. The inwardly projecting baffle lips 9 materially oppose siphonage by vacuum, and also assist in elevating heavy matter that may pass through the cone. Furthermore, the said lips form, with the corrugations, grooves or channels 8 of sufficient capacity for holding the water in the cone against the tendency of the vacuum to unseal the trap.

I claim—

1. A fluid seal trap comprising an outer casing having a bottom outlet neck, an inner sealing cone projecting upwardly within the casing and provided with a top outlet opening, and means for imparting a whirling mo-

tion to the fluid and material passing through said sealing cone.

2. A trap comprising an outer casing having a bottom outlet, and a spirally grooved inner cone projecting upwardly within the casing and having a bottom inlet and a top outlet.

3. A trap comprising an outer casing inclosing an air space and having a bottom outlet, and an inner sealing cone projecting upwardly into said air space from the bottom of the casing, said inner cone being provided with a spirally corrugated shell forming interior spiral grooves winding from the bottom to the top of the cone, said cone being further provided with a bottom tangential inlet, and with a top opening at its apex.

4. A trap comprising an outer casing, and an inner sealing cone provided with interior spiral grooves and inwardly and downwardly projecting baffle lips overhanging said grooves, said cone being further provided with a bottom inlet and a top outlet.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ADOLPHUS L. BOWER.

Witnesses:
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