

L. STRAUS.

Apparatus for Cleaning Privies.

No. 73,938.

Patented Jan'y 28, 1868.

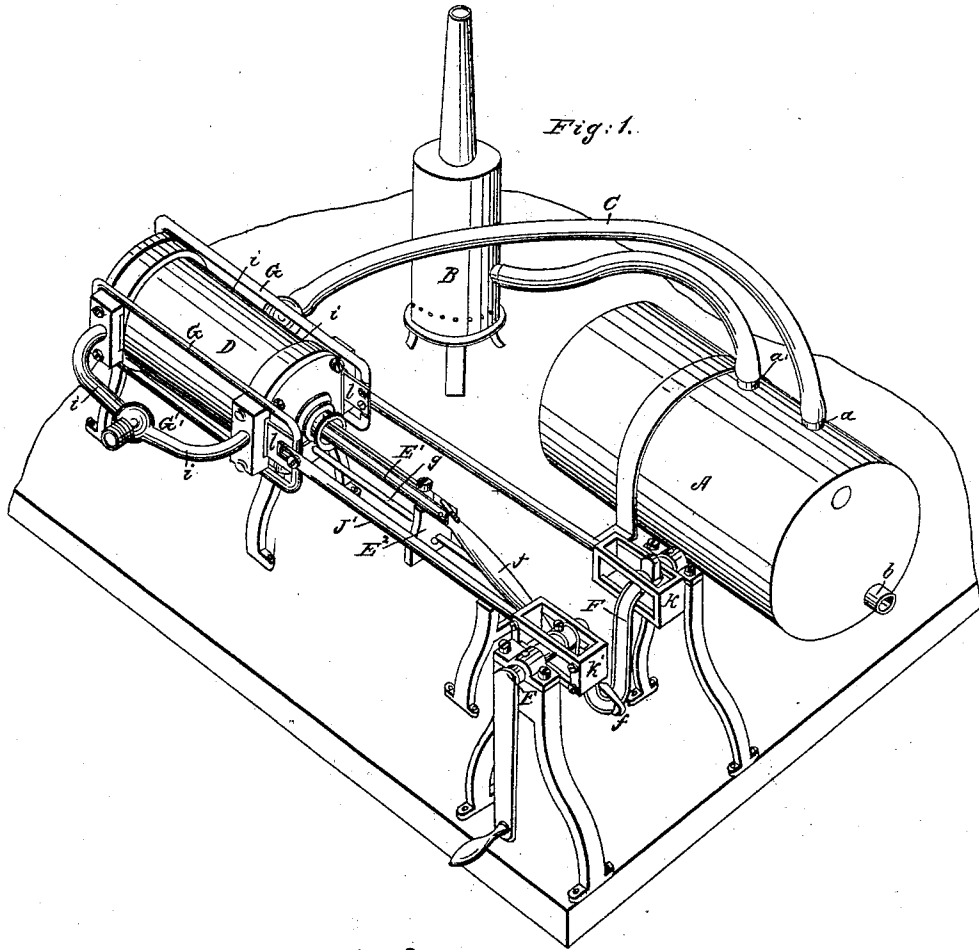
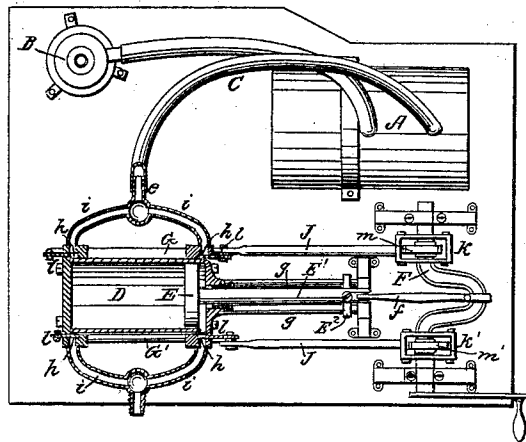


Fig. 2.



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UNITED STATES PATENT OFFICE.

LOUIS STRAUS, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN APPARATUS FOR CLEANING PRIVIES.

Specification forming part of Letters Patent No. 73,938, dated January 28, 1868.

To all whom it may concern:

Be it known that I, LOUIS STRAUS, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Mode of Cleaning Privy-Vaults and cisterns containing putrid matters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the improved apparatus used in cleaning privy and other vaults. Fig. 2 is a top view, showing the pump-cylinder in horizontal section.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in a new and improved mode of emptying privy-vaults and other reservoirs containing putrid and noxious matters, whereby the work can be done with great facility.

The invention consists, further, in the employment of a portable air-tight reservoir or receiver for containing the matters removed from the vaults, and a gas-burning stove for consuming the gases arising from said matters while conducting them into the receiver.

The invention further consists in the combination, with the second feature of invention, as just stated, of a forcing-engine, and suitable connecting pipes or hose, for pumping the matters from the vaults into the receiver, as will be hereinafter described. It also consists in providing for keeping the engine-ports clear and free from solid substances, by constructing the valves or cut-offs of the piston-cylinder so that they shall act as cutters and clearers, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents an air-tight tank or reservoir, which may be constructed in any suitable manner, and which is provided with an opening covered with glass, so as to expose the interior, and allow a person to see when it is filled. This tank is also provided with pipe-connections *a a'*, and with a draw-off nozzle, *b*. To the connection *a'* a hose is attached, which

leads off to a gas-burner, B, so as to conduct the air and gas from tank A during the process of filling it. The gas-burner B may be constructed, in any suitable manner, for burning charcoal or other deodorizer for purifying the escaping gas. To the connection *a* the pipe or hose C is applied, which leads off to the pumping-engine, and is suitably connected to the coupling-pipe *c*. The cylinder D of the engine may be constructed like the well-known double-acting pump-cylinders. It is provided with a solid piston, E, the piston-rod *E¹* of which passes through a stuffing-box in the head of this cylinder, and is connected to the crank-shaft F by means of a pitman-rod, *f*, as shown in the drawings. The piston-rod *E¹* is attached to a reciprocating cross-head, *E²*, which is guided by the ways *g g*. At the sides, near the ends of the cylinder D, are the ports *h h*, leading off, through branch pipes *i i* on both sides of the cylinder, to the coupling-pipes *e e'*, as shown in Fig. 2. Each port is provided with a rectangular plate-valve, *l*, the inner edge of which is beveled and brought to a knife-edge, as shown in Fig. 2. These valves are connected together in pairs by means of the reciprocating frames G G', placed on the sides of the cylinder D, as shown. To the valve-frames G G' rods J J' are attached, and on the ends of these rods slotted boxes K K', through which the crank-shaft F passes. Within these boxes, and keyed upon the crank-shaft, are cams or toes *m m'*, so arranged as to operate alternately upon the ends of the boxes K K', and communicate an alternate reciprocating movement to the valve-frames.

By this arrangement and operation of the parts the pump will operate upon the principle of a double-acting forcing-pump; or, in other words, when the piston is moving in one direction, one valve will be open to allow the liquid matter to rush in behind the piston, and another valve will be open to allow the piston to force the matter to rush out before it. When the piston returns, the same operation will take place by the opening of the opposite valves.

To the coupling-pipe *e'*, leading to the induction-valves, a hose-pipe is to be attached, which is carried off to the vault to be emptied, and, if desirable, provided on its end with a

rose-nozzle, to prevent substances from being drawn into the hose which would be liable to clog it.

In practice, it will be found best to have the sliding valves applied so as to work as near as possible to the interior ends of the ports, so as to prevent the latter from clogging, by causing these valves to cut their way through any solid substances which might lodge in the ports.

In practice, the apparatus which I have above described will be suitably mounted upon a carriage, so that it can be conveniently transported from one place to another.

I do not confine my invention to the precise construction of the several parts herein described, as these parts may be modified without changing their principle of operation.

It will be found advantageous to have the pipe-connections upon the several parts of the apparatus provided with screw or other suit-

able caps, so that when the hose-pipes are removed such caps may be applied to said connections, so as to prevent the escape of foul gases.

Having described one practical mode of carrying out my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the reservoir or receiving-tank A and deodorizer B with a forcing-engine, substantially as and for the purposes described.
2. The sliding valves *l* of the engine, constructed with cutting-edges, substantially in the manner and for the purposes described.
3. An apparatus for emptying privy-vaults, constructed and operating substantially as described.

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Witnesses:

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