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Apparatus for the Removal of Night-Soil from Privies, Sinks, &c.

No. 148,557. Patented March 17, 1874.

Witnesses,
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN APPARATUS FOR THE REMOVAL OF NIGHT-SOIL FROM PRIVY-SINKS, &c.

Specification forming part of Letters Patent No. **148,557**, dated March 17, 1874; application filed December 16, 1872.

To all whom it may concern:

Be it known that we, RICHARD S. GILLESPIE and J. R. GRISWOLD, both of the city, county, and State of New York, have invented a new and useful Improvement in Apparatus for the Removal of Night-Soil from Privy-Sinks, &c.; and the following, taken in connection with the drawings, is a full, clear, and exact description thereof.

Figure 1 is a complete view of apparatus, the working parts and privy-sink being shown in section. Fig. 2 is a section of the ejector. Fig. 3 is a perspective view of the strainer with a reciprocating scraper. Fig. 4 is a modification of the suction-pipe.

The same letters refer to same parts in all the figures.

The object of our invention is to draw up the contents of the privy-sink by the means of a steam-injector, and convey the same to a tight receptacle. This has already been done by means of pumps, and by exhaustion of the receptacle; but the impracticability of all the present forms of apparatus is that the extraneous matters which are thrown into the sink obstruct the pump and pipes.

To obviate this, we construct our apparatus with a strainer, A, at the end of the suction-pipe, and draw the contents of the sink from the top, only excluding all matters that would not readily pass through the pipe. The strainer or basket A is cylindrical, and held firmly in cast-iron arms or frame, which frame can be made to slide up and down on two wrought-iron posts or pipes, F′ F′, resting on the bottom of the sink. The frame is raised by means of a chain attached to the staple G, and the chain, passing over the pulley *a*, and passing down, is hooked to the staple G. The scavenger stands upon the frame and works the reciprocating scraper A′ by means of the handle E, thus knocking off from the strainer all the coarser extraneous materials, and breaking up such as are soft in their nature, so that they will pass through the strainer. The scavenger adjusts, by means of the chain, the height of the frame to the contents of the sink, keeping the top slightly above the sink-level. B′ is the suction-pipe, preferably of rubber, smooth inside and out. The outer shell of injector is a cast-iron double pipe, B, branching out and returning to the suction-pipe. In the forward angle of the two branches is inserted the steam-injector pipe D, connected with the boiler H. The operation of the injector is like all these contrivances for inducing a current; and the form of the pipe B, in combination with that of the injection-pipe at the angle, induces the readiest flow in the suction-pipe. Within the steam-injector D there is a small pipe, C′, connected with a can, C, containing chloralum, or any ready disinfectant, which, as the steam rushes by through the aperture C′, is drawn out, mixes with the steam, and then with the contents of the sink as they pass along through the suction-pipe. The pipe C′ is controlled by a cock, so that the quantity of the disinfectant may be proportioned to the offensiveness and quantity of the material drawn from the sink. This material is discharged into a tight tank, I, which is to be emptied by the cock or gate at the extreme end. As the tank begins to fill, the air-pressure within it would increase were it not relieved by the pipe D′, which opens into the fire-box or beneath the grate of the boiler. By this means, should the disinfecting be incomplete, all offensive gases are consumed.

When the bottom of the sink is reached, the suction-pipe is disconnected from the bottom of the strainer, and connected with the top, and all loose matter on the bottom of vault is scraped up to the strainer by the scavenger. All such solid materials as are usually found in sinks are taken up and placed into air-tight cans.

In the modification, Fig. 4, the suction-pipe rests on the bottom of the sink, and a return pipe passes up to the top end of the sink. The upper joint has a removable basket strainer. All material is fed into this basket by the scavenger, and, when the level of the sink is reduced to the bottom of the first section B, it is then removed, placing the basket on the next, and so on successively as the level of the sink falls.

Having thus described our invention and its mode of operation, what we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of the strainer A, the frame G, the rods F′ F′, the pipe B′, and the

ejector C′, substantially as and for the purpose described.

2. The reciprocating scraper, in combination with the cylindrical strainer, as and for the purpose specified.

3. The combination, on a truck or wagon, of the steam-boiler H, the closed soil-box I, the pipe B′, with the ejector C′, as and for the purpose described.

4. The combination of the bent sectional pipe A, Fig. 4, the pipe B′, and the ejector C′, as and for the purpose described.

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