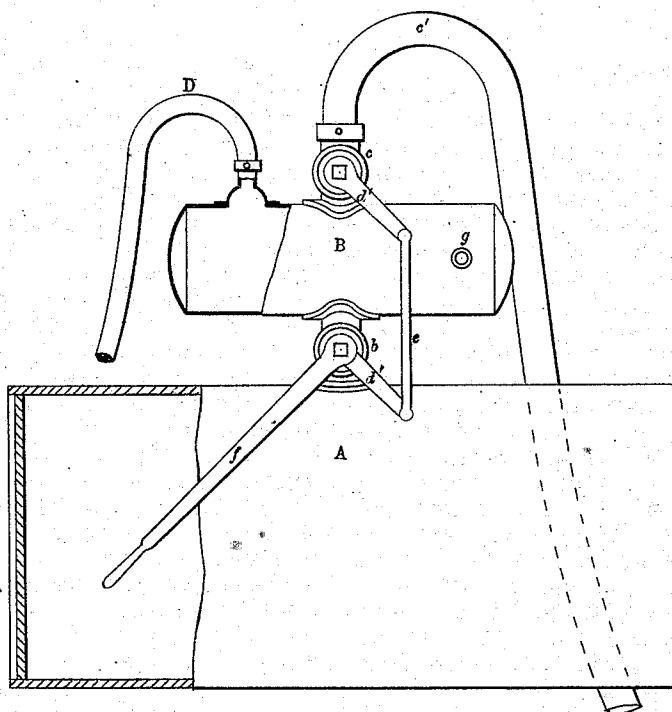


C. KIMBALL.
Odorless Excavating Apparatus.
 No. 157,609. Patented Dec. 8, 1874.



— WITNESSES —

L. B. Wilson
W. H. Conner

— INVENTOR —

Columbus Kimball
 by *J. H. M. J. Howard*

UNITED STATES PATENT OFFICE.

COLUMBUS KIMBALL, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN ODORLESS EXCAVATING APPARATUS.

Specification forming part of Letters Patent No. **157,609**, dated December 8, 1874; application filed August 15, 1874.

To all whom it may concern:

Be it known that I, COLUMBUS KIMBALL, of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Odorless Excavating Apparatus, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to improvements upon machinery or apparatus employed for the cleaning out and conveyance of matter from sinks, cesspools, and the like, in such manner that the effluvium and deleterious gases therefrom shall not escape to the outer air from the said apparatus; and my improvements specially relate to the use or employment of an additional tank, of such construction and size as will adapt it to withstand the exterior atmospheric pressure, with the ultimate receiving and conveying tank, and to the necessary means, hereinafter particularly set forth, for co-operation between the two tanks, and the connection of the auxiliary tank with the sink and air-exhausting pump.

In the description of my invention which follows due reference must be had to the accompanying drawing, forming a part of this specification, and which is a side view of my invention, partly in section.

A is a tank of such character as is not calculated to withstand the exterior atmospheric pressure. B is an auxiliary tank, strongly formed with spherical heads to enable it to sustain without injury the pressure of the atmosphere on the exterior surface thereof. The tank B is connected to the main tank by a stop-cock, *b*, the key of which is united, by the levers *d d'* and rod *e*, to the key of a corresponding cock, *c*, located on the upper side of the tank B. The movement of the handle *f* fastened to the key of the stop-cock *b* gives a corresponding movement to that of the cock *c*, and, as the keys are placed in an exactly reverse position in their respective cocks, the opening of one causes the closing of the other.

A pipe, *D*, connects to an air-pump of ordinary construction, by means of which the air is exhausted and a partial vacuum formed in the tank communicating therewith.

By the foregoing it will be seen that the air in the auxiliary tank only is exhausted, and consequently no exterior pressure placed upon the main tank. As soon as the tank B is filled the handle *f* is moved in such direction as to open the stop-cock *b* and close the cock *c*, thus allowing the matter to fall from the auxiliary to the main tank. A small aperture in the case of the cock *c* allows the air to enter the key and pass, through a corresponding opening in the side thereof, into the tank B to prevent the stoppage of the flow of the matter therein by the formation of a vacuum. After the tank B has been emptied the cocks are turned to their original positions and the tank filled as before.

The air and gases discharged from the pump can be disinfected and deodorized by any of the well-known processes, and rendered perfectly harmless and unobjectionable.

A small nozzle, *g*, is fitted to either one of the cocks, or to the tank B, for the purpose of attaching a pipe, leading therefrom to some water-supply. By this means the apparatus can be cleared of the adhering matter and the pipe *c* cleansed, in case of stoppage, by the introduction thereto of fibrous or other clogging material.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination of the tank A, auxiliary chamber B, cocks *b c*, pipes *c' D*, levers *d d'*, rod *e*, and handle *f*, substantially as and for the purposes herein specified.

In testimony whereof I have hereunto subscribed my name, in the city of Baltimore, this 14th day of August, in the year of our Lord 1874.

COLUMBUS KIMBALL.

Witnesses:

WM. T. HOWARD,
WM. S. MURPHY.