

W. E. BROCK.

Valves for Odorless Excavators.

No. 156,908.

Patented Nov. 17, 1874.

Fig 1.

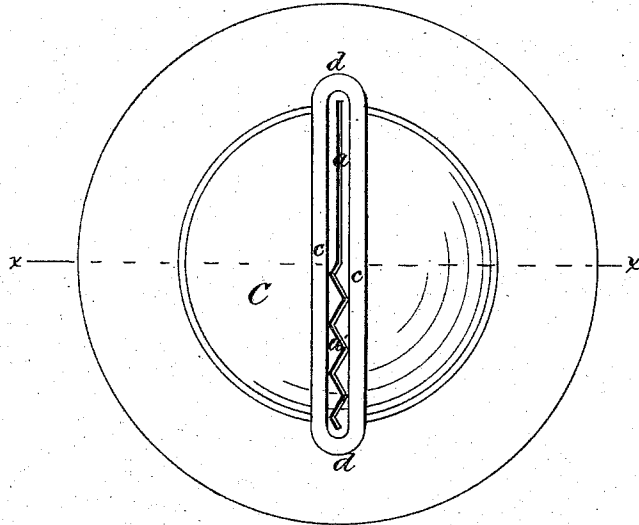
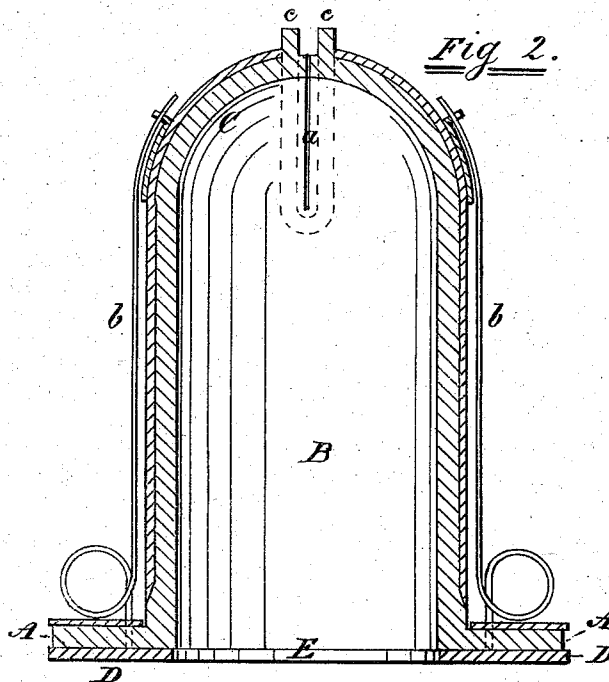


Fig 2.



Witnesses.

Colborne Brooks  
Chas. Brock

Inventor.

Wm. E. Brock  
By Attorney  
W. Morris Smith.

# UNITED STATES PATENT OFFICE.

WILLIAM E. BROCK, OF NEW YORK, N. Y., ASSIGNOR TO T. TILGHMAN, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN VALVES FOR ODORLESS EXCAVATORS.

Specification forming part of Letters Patent No. **156,908**, dated November 17, 1874; application filed October 28, 1874.

*To all whom it may concern:*

Be it known that I, WM. E. BROCK, of the city, county, and State of New York, have invented an Improved Valve for Odorless Excavators, of which the following is a specification:

This invention consists in a novel construction of valve adapted to admit and pass more readily, and with less risk of leakage, any solid matter, of various and irregular forms, that may accumulate in sinks, sewers, and other receptacles of refuse matter. Its peculiar and novel features will be clearly understood by the following description, in connection with the accompanying drawing, in which—

Figure 1 represents a top or plan view of the valve; and Fig. 2 a vertical section of the same on the line *x x* on Fig. 1.

Similar letters indicate like parts in both figures.

The valve-seat *D* is preferably formed with a circular aperture, *E*, and over this aperture is attached, by means of the flange *A*, or other suitable connection, a tubular collar, *B*, the upper portion, *C*, of which is of hemispherical contour. This portion is divided vertically, as at *a*, or the edges of said division may be zigzag, as shown at *a'*, so that in opening, to allow the passage of any article that will pass the orifice in the valve-seat, the area of such opening will be fully equal to that of said orifice, and at the same time the flexibility of the material will allow it to conform to the shape of any solid matter passing through it.

This structure may also, if desired, be supported by springs *b*, of any suitable form or

character, to insure the closing of the divided portion, which may furthermore be stiffened or supported at or near the edges of the divided dome by ribs *c*, to give sufficient stiffness to prevent the collapsing or depression of the dome portion. These ribs may be continuous, or connected at the extremities of the divided portion by flexible stays *d*.

With this construction of valve it will be apparent that any substance that will pass the orifice of the valve-seat will find a free exit through the mouth of the valve, which, being of a flexible character, both in construction and material, will readily conform to the contour of any irregular-shaped substance.

I am aware that flexible flap-valves have been heretofore used, forming elliptic passages, as by two flat surfaces secured together at their vertical edges. These, therefore, I do not claim.

What I claim as new, and desire to secure by Letters Patent, is—

1. A flexible valve, composed of a tubular portion, *B*, with an upper dome portion, *C*, slotted in a vertical transverse direction, with straight or zigzag edges, substantially as shown and described.

2. The ribs *c*, arranged at or near the dividing edge of the dome *C*, and connected at their lower extremities by stays *d*, as and for the purpose specified.

W. E. BROCK.

Witnesses:

W. H. MELICK,  
WM. H. VAN GIESON.