# G. W. HOWELL.

## CUT-OFF BRANCH PIPES.

No. 182,672. Patented Sept. 26, 1876.

*Fig. 1.*

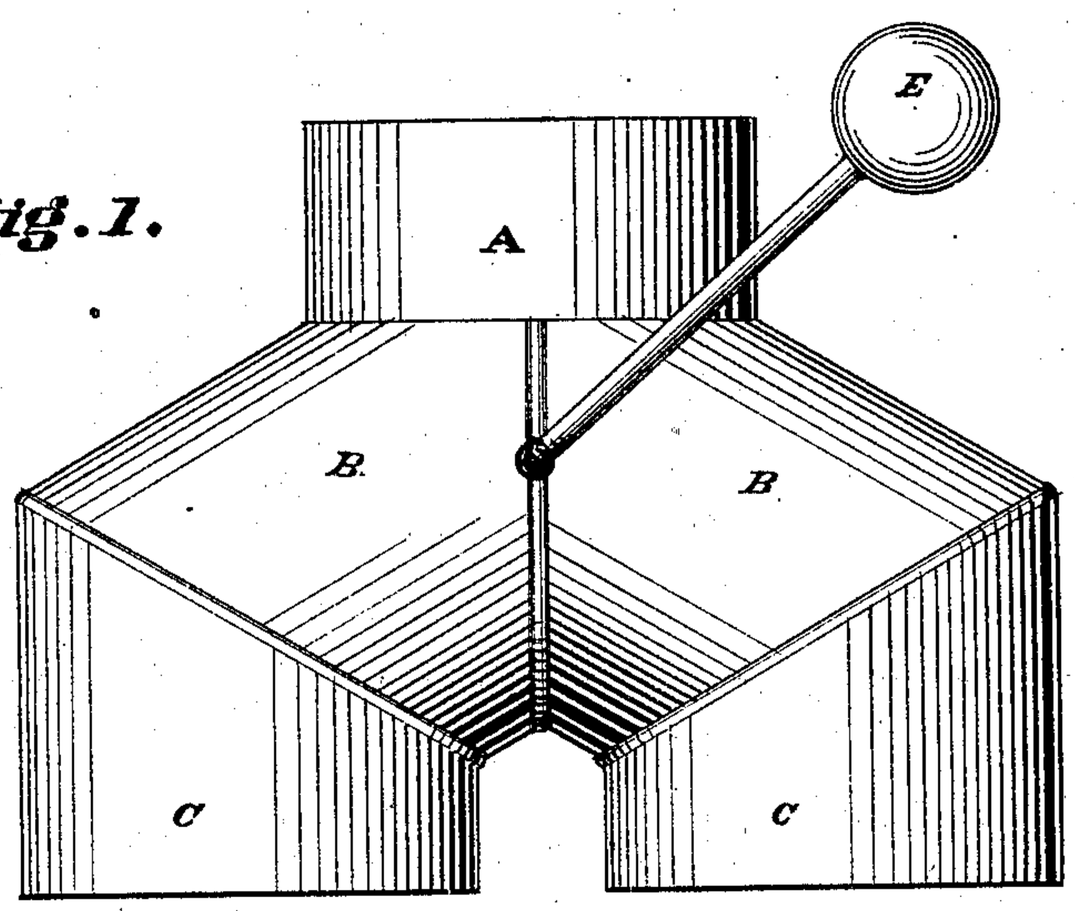
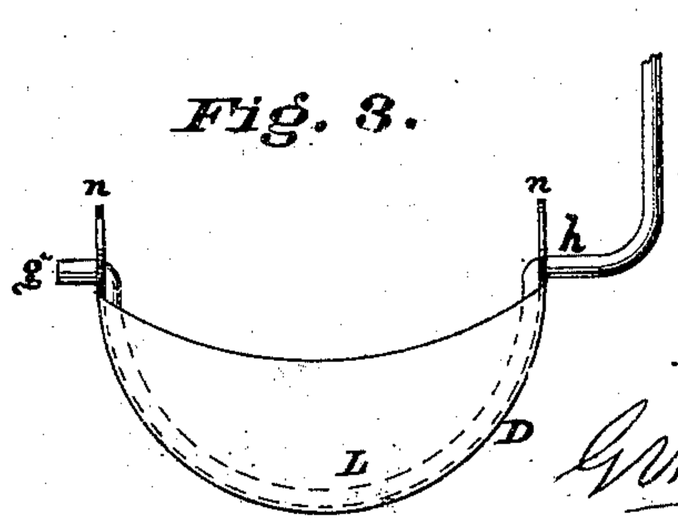



*Fig. 2.*




*Fig. 3.*




**Attest.**

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# UNITED STATES PATENT OFFICE.

GEORGE W. HOWELL, OF COVINGTON, KENTUCKY.

## IMPROVEMENT IN CUT-OFF BRANCH PIPES.

Specification forming part of Letters Patent No. **182,672**, dated September 26, 1876; application filed October 20, 1874.

*To all whom it may concern:*

Be it known that I, GEORGE W. HOWELL, of Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Cut-Off Branch Pipes, of which the following is a specification:

The object of my invention is to provide a cheap and convenient cut-off in branch pipes for cisterns and other purposes; and it consists in providing a concave or angular shaped cut-off pivoted below the supply-pipe or orifice, and adapted to close or cover one of the discharge orifices or pipes, and to leave the opposite one open for discharging liquids.

Figure 1 is a side elevation of my improvement. Fig. 2 represents a vertical section through the center of Fig. 1. Fig. 3 is a central section of the cut-off.

A represents the supply-pipe. B B represent two pieces of pipe, placed at an angle to each other of about forty-five degrees. The supply-pipe A communicates with each of these branches B B at the top, as shown in Fig. 2. C C represents an elbow, attached to the branches B B, respectively, to bring the branches into parallel lines; but these may be dispensed with, or either may be of different angles, according to the direction desired for the branch pipes. These parts are preferably made of sheet metal, either tin or galvanized iron being preferable. The lines D T O represent one-half of a hood or cut-off. It is of circular shape in cross-section, as shown in Fig. 3, and is pivoted at the confluence of the branches B B by pivots *g h*. L represents a wire, sustaining a weight, E, at the top, which wire is bent to form the pivots, and is bent to conform to the interior of the cut-off L, as shown by L in Figs. 2 and 3. Any other form of pivoting the hood D may be employed. The supply-pipe A is made to extend into the branches B B, as shown Fig. 2, forming ledges *d* and *e*, behind which the cut-off D passes, when it closes either of the branches B B, thus forming a joint which serves to prevent leakage. The lower part of the cut-off D, when one of the branches is closed, extends a sufficient distance into the opposite branch, as shown at S, Fig. 2, to form a water-joint at the bottom to prevent leakage.

The device is shown to be made of round pipe; but the shape of the pipe may be variously modified, if desired; also, the angles of the several parts may be variously altered without departing from my invention. The weight E serves to hold the hood or cut-off in a closed position; but a brake-spring or other devices may also be employed instead of the weight, if desired.

Instead of using branch pipes jointed at an angle, curved pipes may be employed, the end of which may terminate at any desired angle to the supply-orifice.

I claim—

In combination with the pipe A, the branch pipes B B, and the straight branch pipes C C, the cut-off D, consisting of two curved pieces of metal, united at such an angle as to form a complete elbow with either of the branch pipes B B and pipes A and C C, said cut-off being secured to a wire, L, pivoted at the junction of the branch pipes B B, by means of which it may be shifted.

In testimony whereof I have hereunto set my hand this 14th day of October, 1874.

G. W. HOWELL.

Witnesses:

JOHN O'GARA,

EDWARD BOYD.