2 Sheets--Sheet 1.

# W. H. MORRISON.

## Reservoirs for Water Works.

No. 158,386. Patented Jan. 5, 1875.

Fig. 1.

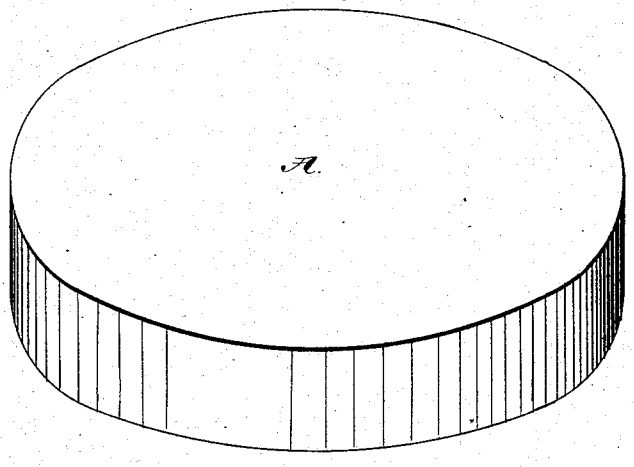
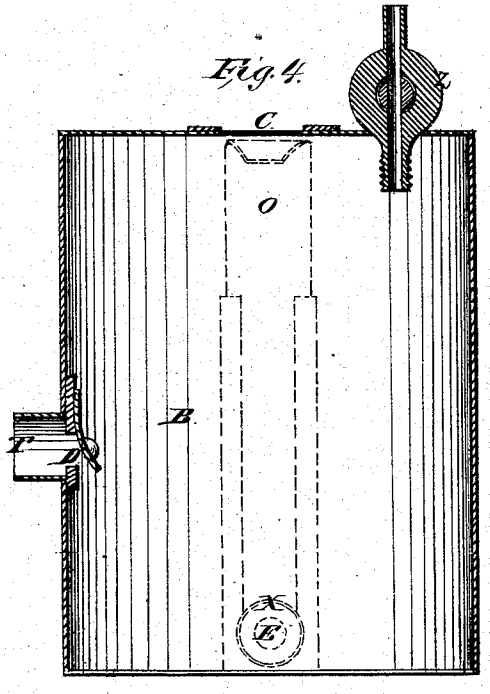



Fig. 4.



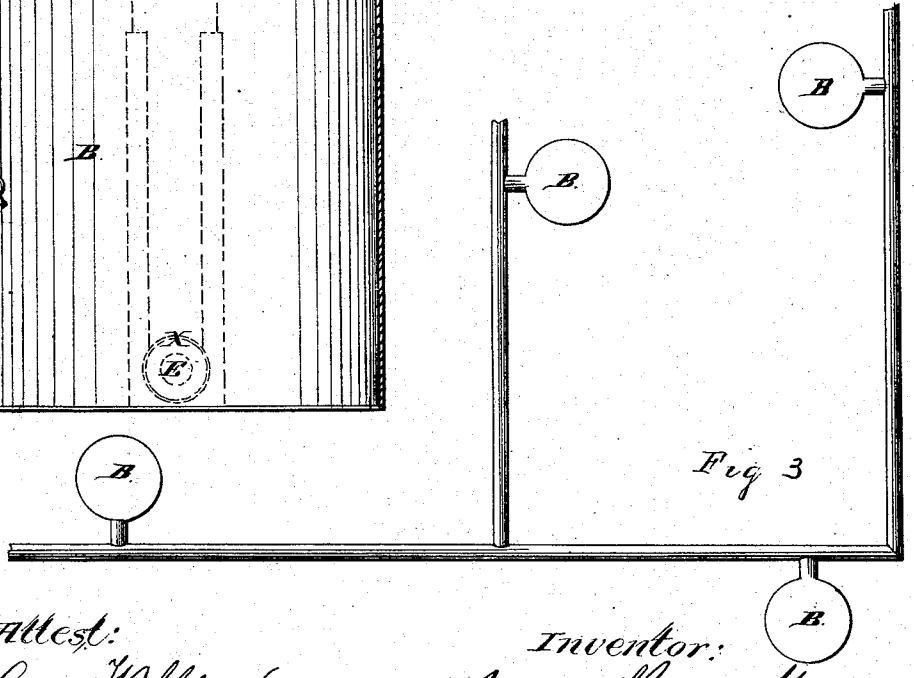




Fig 3

Attest:
Lane Wilson
F Tom Johnson

Inventor:
William Henry Morrison.

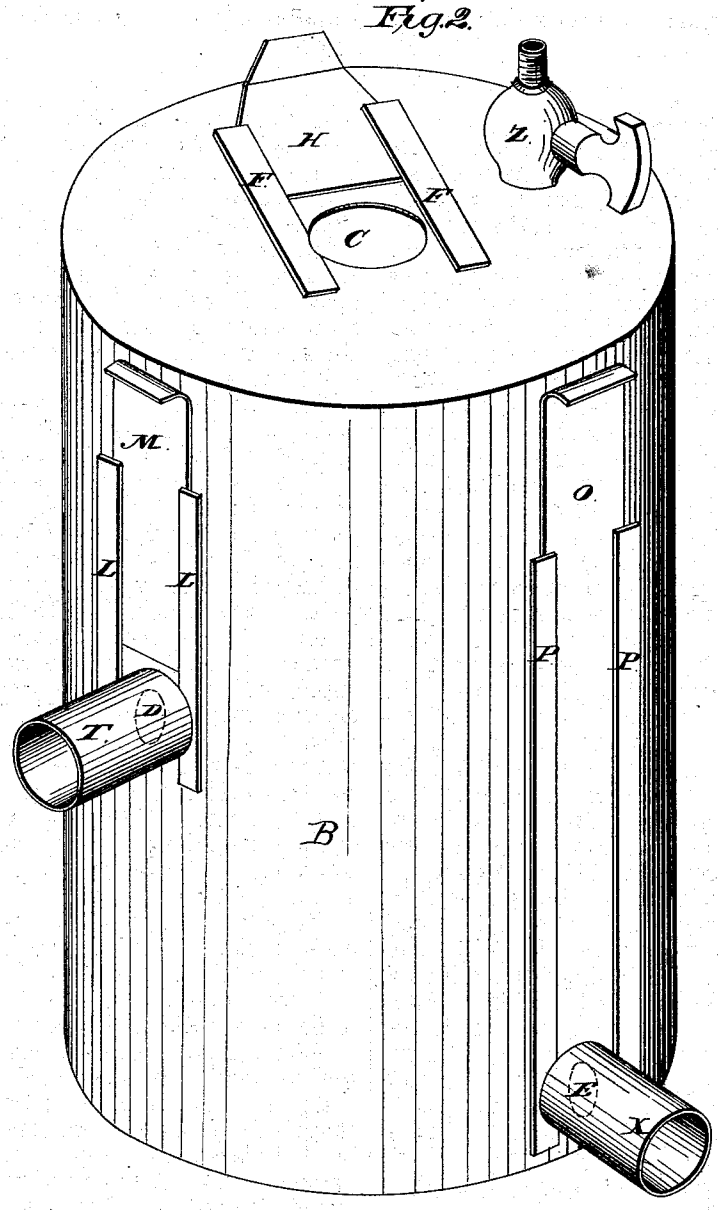
2 Sheets--Sheet 2.

# W. H. MORRISON.

## Reservoirs for Water Works.

No. 158,386. Patented Jan. 5, 1875.

*Fig. 2.*




Attest:
Lane Wilson.
F. Tom Johnson.

Inventor:
William Henry Morrison.

# UNITED STATES PATENT OFFICE.

WILLIAM HENRY MORRISON, OF INDIANAPOLIS, INDIANA.

## IMPROVEMENT IN RESERVOIRS FOR WATER-WORKS.

Specification forming part of Letters Patent No. **158,386**, dated January 5, 1875; application filed October 1, 1874.

*To all whom it may concern:*

Be it known that I, WM. HENRY MORRISON, of Indianapolis, Marion county, in the State of Indiana, have invented certain Improvements in Reservoirs for Water-Works, of which the following is a specification:

The object of my invention is to secure a more uniform, continuous, and sure supply of water, under a more even pressure, than is attained by the systems of supply now in use, where there is not a sufficient head of water to furnish of itself adequate pressure at all times.

In the two accompanying sheets of drawings, Figures 1 and 2 show the reservoir B and its cap A, and Fig. 3 shows a system of such reservoirs, B B B, connected with the water-pipes at different points. Fig. 4 is a modification.

The reservoir B is made of boiler-iron, similar to a steam-engine boiler, or of any material which will stand the needed pressure. The reservoir B is placed under ground, surrounded with earth, or by a brick or stone wall, except that a sufficient space is left to allow the sliding water-gates M and O to be moved vertically. The tube T is connected by ordinary water-pipes with the main pipes, and when the sliding gate M is raised the water enters the reservoir B through the orifice D. L L are the guides in which M works. The man-hole C is opened or closed air-tight at pleasure by the slide H, which works in the guides F F. The tube X is connected with ordinary water-pipes, leading to the surface of the ground, and the water passing through the orifice E into said water-pipes, when the sliding water-gate O is raised, is conveyed by them to the surface of the ground, ready for use in extinguishing fires, or for other purposes where much pressure is needed. The sliding gate O works in the guides P P. Z is an ordinary stop-cock, connected with the interior of the reservoir B, this stop-cock being opened or closed at pleasure.

The mode in which the reservoir B is intended to operate is this: The man-hole C being closed air-tight by the slide H, the stop-cock Z being also closed, and the orifice E being closed by the sliding gate O, the water from the main water-pipes is allowed to enter the orifice D and pass into the reservoir B. Now, supposing the pressure upon the water in the main water-pipes to be at its maximum, the water in the reservoir B will fill its lower part, and the compressed air in B will occupy the upper part of said reservoir. The connection between the water in B and the main water-pipes may now be continued or cut off by shutting down the gate M at pleasure; and, again, if it is desired to make the reservoir B more effective, more air may be pumped into the reservoir B through the stop-cock Z, which will be afterward closed.

The construction of the reservoir B may be changed, without altering its operation, by substituting other mechanical equivalents for the slides M, O, and H, which may be placed inside of the reservoir B, and operated by iron rods passing through the top of B. A is a cap for reservoir B resting on the brackets I I, designed to keep the water cool and protect the working parts of the mechanism. These reservoirs are intended to be placed at intervals, as may be needed at any points between the source of supply and the termini of the main water-pipes, or, when it is desired, inside of buildings supplied with water.

The reservoirs B may be made of the same size as ordinary cisterns, or any other size, and, by cutting off the supply at D and lowering hose through the opened man-hole C, the reservoir B may be used in the same way as the ordinary cistern.

Fig. 4 shows a modification which may be made in the mode of closing the orifice D by means of a flap-valve inside of the reservoir B.

If we suppose the system of reservoirs B B to be filled while the pressure upon the water in the main pipes is at its maximum, and that the connection between said reservoirs and main pipes is cut off, as described, then, although the pressure in the main pipes should be diminished, and even if accidents should happen to the machinery or main pipes, there would still be a supply of water on hand from the reservoirs and pipes in connection with them under a heavy pressure, which would last for a considerable time.

From the foregoing explanations the advantages gained by the improvements described in this specification are manifest, inasmuch as they will secure a more permanent and sure supply of water under a better and more uni-

form pressure than can be maintained without them, where there is not a sufficient head of water at the source of supply to create enough pressure at all times.

What I claim is—

The pressure-reservoirs B B, having the inlet-opening D, connecting with the main pipe, and the outlet-opening E, and stop-cock Z, and sliding gates M and O, or their mechanical equivalents, when operated substantially as described, for the purposes specified.

WILLIAM HENRY MORRISON.

Witnesses:
F. TOM JOHNSON,
S. B. GRUBBS.