T. R. WHITE.

Improvement in Gas-Holders.

No. 130,346. Patented Aug. 6, 1872.

Fig. 1.

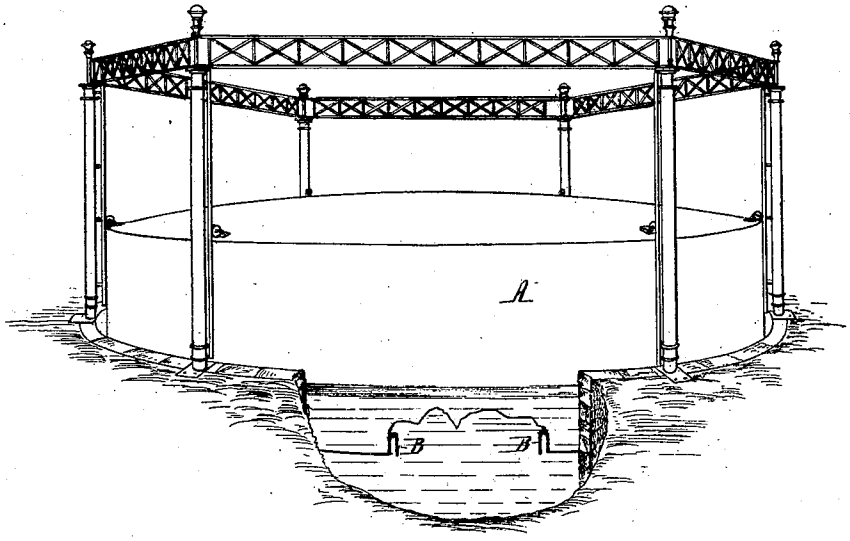
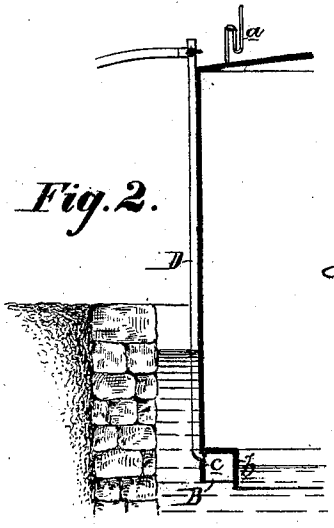


Fig. 2.



Witnesses.

Thomas McIlvain

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UNITED STATES PATENT OFFICE.

THOMAS R. WHITE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN GAS-HOLDERS.

Specification forming part of Letters Patent No. **130,346**, dated August 6, 1872.

Specification describing an Improvement in Gas-Holders, invented by THOMAS R. WHITE, of the city and county of Philadelphia, State of Pennsylvania.

Improvement in Gas-Holders.

My invention relates to that class of gas-holders in which air-chambers are employed to facilitate the filling of gas-holders by reducing the back pressure from the same to the retorts; and my invention consists in providing the holder A, best observed in the perspective view, Fig. 1, with an annular air-chamber, B, at its lower submerged end, the said air-chamber being filled with air through a pipe, D, communicating with a pump, for the purpose of buoying up the holder when the latter is being filled with gas, thus reducing the usual back pressure from the same to the retorts; and after the holder has been filled the air may be withdrawn from the chamber B, when the full pressure of the holder will be exerted as usual to force the gas through the pipes to the points of consumption.

By buoying up the holder, as above described, the back pressure from the same to the retorts is so reduced that very little pumping is required, and a much purer quality of gas is obtained.

The holder is provided with a mercury or other gage, *a*, shown in the sectional view, Fig. 2, which enables the pressure upon the gas to be regulated as required, by forcing air into or discharging it from the chamber B, and the escape of air from the open lower end of the latter to the interior of the holder is effectually prevented by extending the inner wall *b* of the chamber to a lower point than the outer wall *c*, so that when the chamber becomes filled with air the latter must pass beneath the outer wall *c*, and then bubble up through the water, instead of passing into the body of the holder.

In the winter season steam instead of air might be pumped into the chamber B for the purpose of heating and preventing the freezing of the water, and of buoying up the holder; but in such case a rapid condensation would take place, and constant pumping would be necessary in order to keep the chamber filled with steam.

I claim—

1. A gas-holder, having entirely round its lower edge an annular air-chamber, *e*, open at the bottom, and communicating with an air-pump, all as set forth.

2. The said air-chamber, bounded by two sides, the inner one of which projects below the outer one, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOS. R. WHITE.

Witnesses:

WM. A. STEEL,

HARRY W. DOUTY.