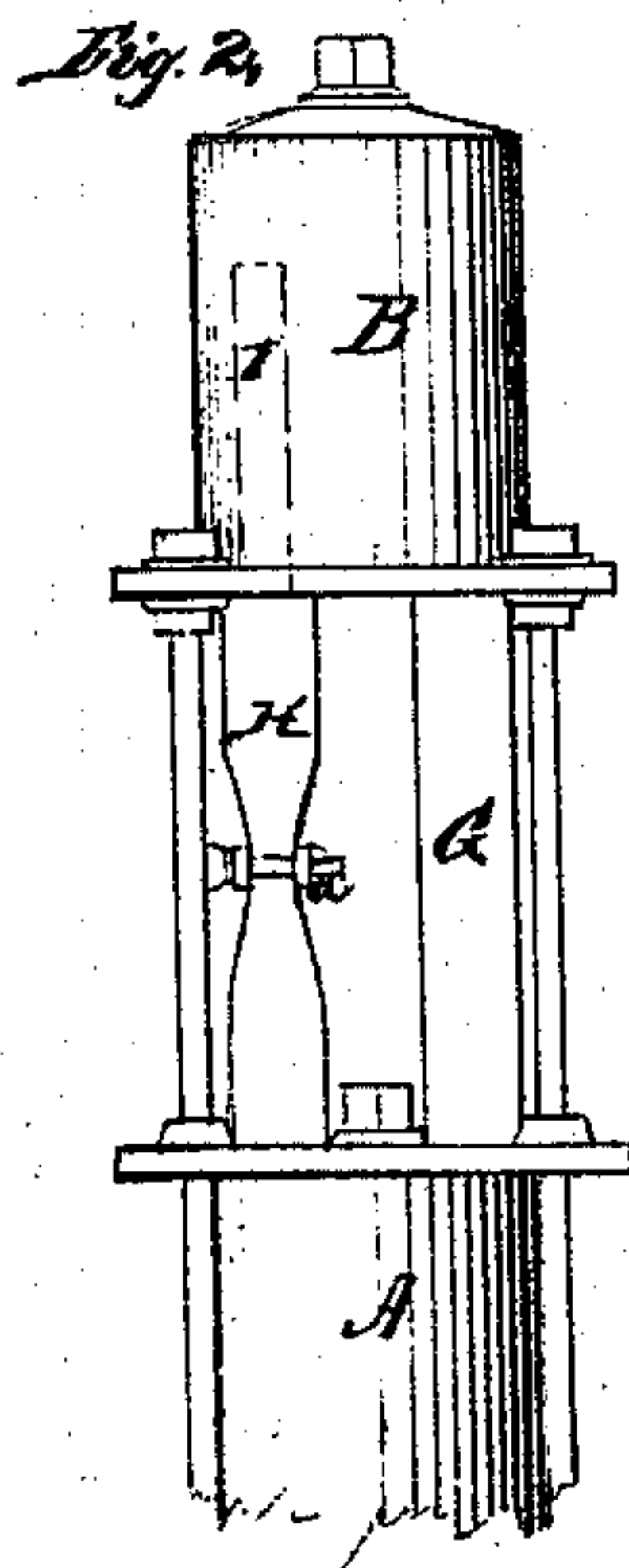
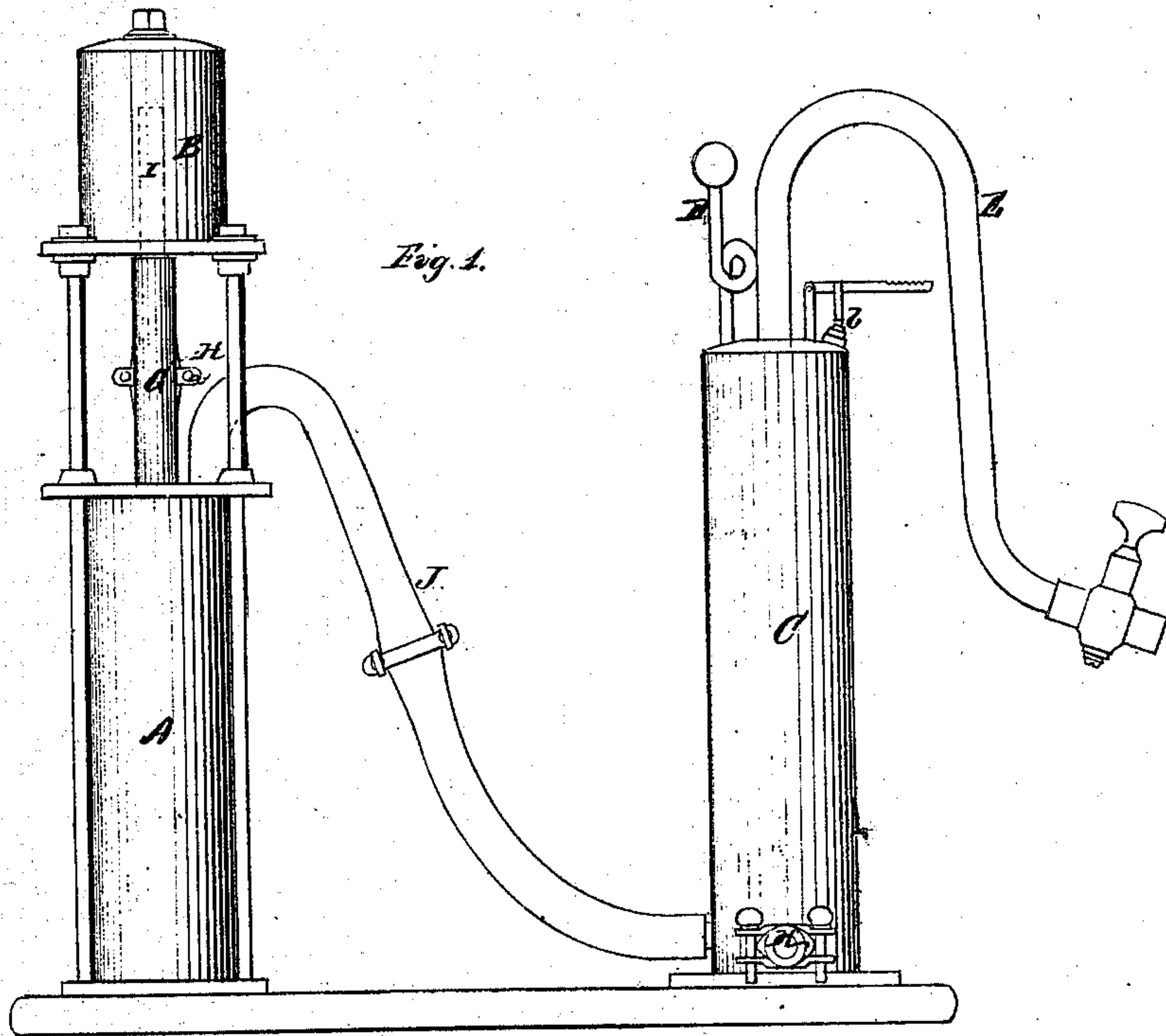


T. Ahrens,

Preserving Beer.

No. 106019.

Patented Aug. 2. 1870.



Witnesses
J. A. White
J. R. White

Inventor
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Atty

UNITED STATES PATENT OFFICE.

THEODORE AHRENS, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN PRESERVING AND DELIVERING BEER, ALE, &c., ON DRAFT, BY MEANS OF CARBONIC-ACID GAS.

Specification forming part of Letters Patent No. **106,019**, dated August 2, 1870.

To all whom it may concern:

Be it known that I, THEODORE AHRENS, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Device and Process for Forcing Liquids Containing Carbonic-Acid Gas up to any desired height; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of an apparatus for keeping any liquid containing carbonic acid fresh, and when said liquid is kept in cellars to force it up into a room above.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

A represents a cylinder or other suitable vessel to contain marble-dust, above which by suitable means is supported another cylinder, B, containing muriatic acid. C is still another cylinder, placed a short distance from the former, and filled about one-third full of water, so as to purify the carbonic acid as it flows in from the cylinder A. On the cylinder C is a pressure-gage, D, and a pipe, E, leading from the top of said cylinder to the vessel containing the liquid. A pipe, G, connects the cylinders A and B, and another pipe, H, runs from the cylinder A to a pipe, I, which runs up in the cylinder B above the muriatic-acid line.

The pipe G is provided with a clamp, *a*, and as soon as these clamps are loosened the air contained in the cylinder A will pass up into B, and the muriatic acid in B will flow into A, where it will transform into carbonic acid and pass through a pipe, J, from the top of the cylinder A into the cylinder C, near its bottom, where it becomes purified by passing through the water contained therein. Thence the carbonic acid passes through the pipe E into the vessel containing the liquid, keeping

the liquid fresh, and at the same time forcing the liquid up to any desired height.

The cylinders A and B are lined with sheet-lead, to keep the acid from corroding them.

Near the bottom of the cylinder C is an opening and pipe, K, for cleaning the cylinder when necessary, and on top of said cylinder is a safety-valve, *b*, to prevent getting too much pressure.

The pipes J and K are also provided with clamps the same as the pipe G. All three of said pipes being flexible the clamps can entirely close them, which is a cheaper and far more durable method than the usual stop-cocks.

I am aware that carbonic-acid gas has been used in various manners for preserving beer and other liquids, and I do therefore lay no claim to such as my invention, my object being mainly to force such liquids up to the desired height by means of pressure caused by carbonic-acid gas. For instance, beer may be kept in the cellar, and by allowing carbonic-acid gas, under a certain pressure, to enter the keg, it may be forced up to the first, second, or third story to be served out. The pressure of the gas is regulated in the tank C, the gage D showing at all times if the necessary amount of pressure is kept up.

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

1. The method herein described of forcing beer or other liquids up to any desired height by means of carbonic-acid gas, as set forth.

2. The arrangement of the cylinders A B C, pipes E G H J K, clamps *a a*, gage D, and valve *b*, for the purpose of forcing beer or other liquids up to any desired height by means of carbonic-acid gas, substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

T. AHRENS.

Witnesses:

H. OTT,

L. KOSIOL.