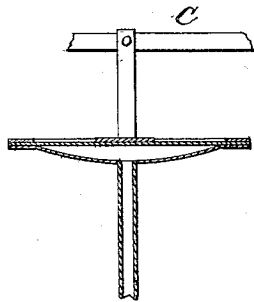
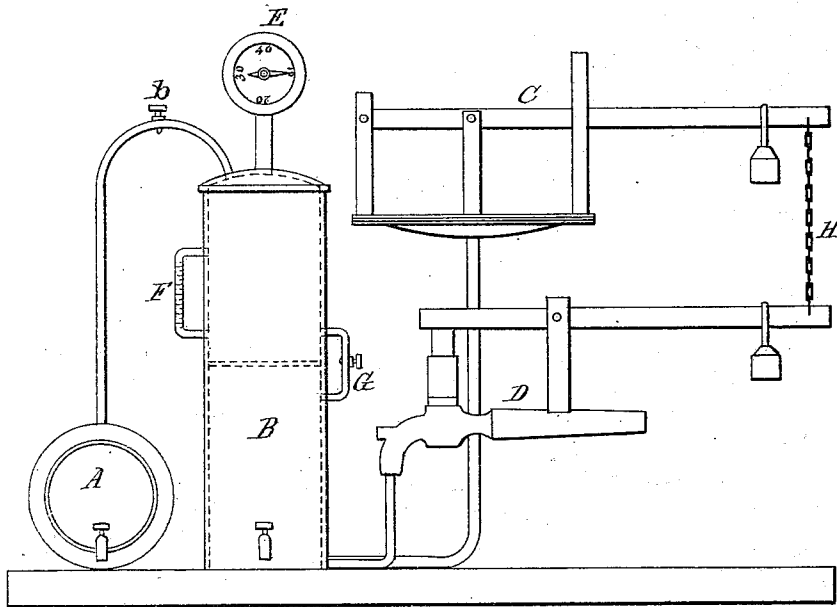


JOHN F. BENNETT.

Improvement in Apparatus for Forcing Liquids.

No. 126,010.

Patented April 23, 1872.



Witnesses

Richard Bennett
George Sifford

Inventor

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UNITED STATES PATENT OFFICE.

JOHN F. BENNETT, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR FORCING LIQUORS.

Specification forming part of Letters Patent No. 126,010, dated April 23, 1872; antedated April 13, 1872.

I, JOHN F. BENNETT, of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented certain Improvements in Apparatus for Drawing Ale, Beer, and other Liquors Charged with Gas, of which the following is a specification.

My improvement consists in the application of a constant, equable, unvarying pressure of air on the liquor during the whole time of the drawing, thus preventing the gases that are confined in the liquor, in the lees or sediment which settles on the bottom of the cask, from escaping, and which, in escaping, lift up with them part of the lees or sediment and make the drawn liquor muddy in appearance, yeasty to the taste, and unwholesome to the stomach. Hitherto, when an air-pump has been used to force ale, the action of the pump has been irregular—that is to say, suppose the pressure of the carbonic-acid gas in the ale of a full barrel to be twenty pounds per square inch and the pressure of air induced by the pump to be the same, then, after drawing part of the ale, the pressure of the gas in the ale is decreased, and the pressure of the air induced by the pump is also decreased. When this decrease is taking place or occurring a part of the carbonic-acid gas rises out of the ale, and that part of the carbonic-acid gas that is in the ale in the lees or sediment on the bottom of the barrel which rises lifts up with it mechanically some of the lees, rendering the ale muddy and unwholesome. Next, when the pump is again operated to restore the necessary pressure air is forced into the ale, which again disturbs the lees and increases the evil; thus the recurring irregular action of the pump is a churning up of the ale and lees or sediment, and injurious to the quality of the ale. My improvement obviates this continual disturbance, and is new, inasmuch as it supplies a constant, equable, unvarying pressure of air on the surface of the ale during the whole time of the drawing off.

A is an ale-barrel, with pipe and tap, *b*. B is a water and air reservoir in two chambers. C is a diaphragm water-valve. D is a water-cock, (hydrant.) E is an air-pressure gauge. F is a glass-tube water-gauge. G is a cock connecting upper and lower chambers. H is a link connecting diaphragm water-valve and hydrant water-cock. The apparatus being thus arranged, the water-cock and pipe D is supplied with water, whose head is high enough to give a pressure equal to or greater than the pressure required. The water, flowing along the water-pipe into the reservoir, cylinder B compresses the air therein, and, with the tap *b* open, presses on the surface of the ale and keeps the gases confined; the air also acts on the air-gauge E and indicates the weight to be put on the water-diaphragm valve C, which regulates the flow of water, so that when the pressure rises above what is required the water is stopped off, and when the pressure descends below what is required the water is allowed to flow. The air-receiver may be made of any material that will resist the pressure—wood, iron, copper, &c.—and ought to be at least large enough to require emptying only once a day. It may have attached to it an automatic apparatus, by which the closing of the tap *b* between the ale-barrel and the air-reservoir, and the emptying of the water out of the air-reservoir, and the renewal of the operation, can be effected by the rise and fall of the water in the air-reservoir.

Having thus described my improvement, I claim as my invention—

The combination of the tank B, (divided or undivided,) pressure-valve C, and hydrant or pipe D, when combined to act substantially as set forth.

JOHN F. BENNETT.

Witnesses:

RICHARD BENNETT,
GEORGE PITFIELD.