(No Model.)

D. & T. MORRIS & C. A. KERN.

APPARATUS FOR SUPPLYING CARBONIC ACID GAS TO BEER IN KEGS.

No. 343,596. Patented June 15, 1886.

Fig. 1.

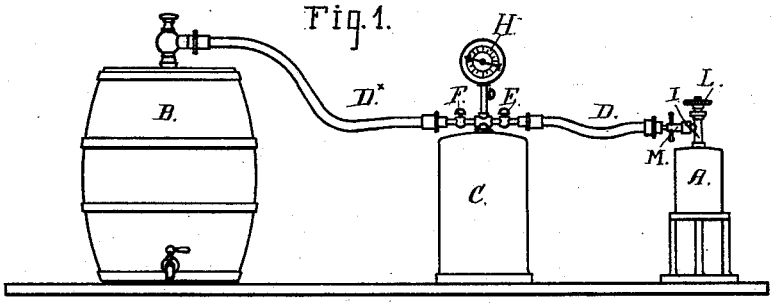


Fig. 2.

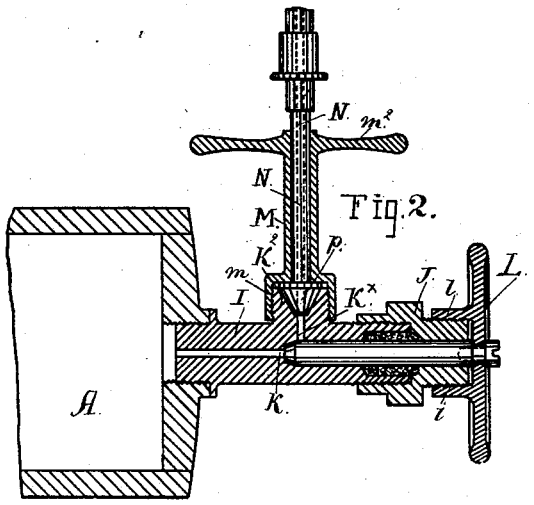
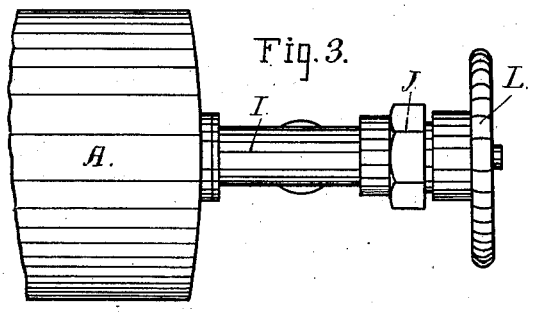


Fig. 3.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR SUPPLYING CARBONIC-ACID GAS TO BEER IN KEGS.

SPECIFICATION forming part of Letters Patent No. 343,596, dated June 15, 1886.

Application filed January 13, 1886. Serial No. 188,461. (No model.)

To all whom it may concern:

Be it known that we, DAVID MORRIS, THEODORE MORRIS, and CARL ALBERT KERN, citizens of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Apparatus for Supplying Carbonic-Acid Gas to Beer in Kegs; and we do hereby declare that the following is a full, clear, and exact description of our said invention, reference being had to the accompanying drawings.

Our invention relates to improvements made in supplying carbonic-acid gas to beer on draft for preserving the qualities and maintaining the pressure; and our improvement consists in combining with the usual gas-receiver a pressure-regulating vessel or chamber with a pressure-gage and suitable connecting-pipes of inlet and outlet provided with hand-cocks, as hereinafter fully described and pointed out, and for operation as set forth.

We construct and combine the parts and carry out our said invention as follows, the drawings being referred to by figures and letters.

Figure 1 is a general view in elevation of our improved apparatus. Fig. 2 is a longitudinal section of the valve and coupling on the receiver, and Fig. 3 is an outside view of the same part. These two views are on a larger scale.

A is a gas-receiver of the portable kind to supply carbonic-acid gas under pressure. B represents the beer-keg, and C is the pressure-regulator. This part C is a chamber, into which the gas from the receiver A is led by means of a pipe, D, and is allowed to expand to the point or amount of pressure that is required for the beer contained in the keg. Such pressure is regulated by means of a cock or valve, E, adapted to be worked by hand, and it is increased or diminished from time to time as the condition or quantity of beer in the keg may call for by simply turning the cock E. The pipe D* is coupled to the plug that is fitted into the bung-hole of the keg. It connects the space above the beer with the gas-chamber, and is provided with a cock, F. The chamber has a pressure-gage, H, to show the degree of pressure standing therein at all times. It also indicates the conditions of head or pressure in the keg, and shows the fluctuation as the beer is being drawn off from time to time. By watching this gage, therefore, the attendant is able to regulate the head of gas to suit the requirements of the keg, and the pressure can be kept at about the same degree on the beer until it is all drawn off.

A construction of valve and coupling for the receiver A is shown in Figs. 2 and 3, the latter being an outside view, and the former a section longitudinally through it. The end of the valve-body I is threaded to fit the threaded opening in the head of the receiver, and the opposite end is covered by the screw-cap J. Through this cap a valve-stem passes into the passage k, and is fitted in such manner that the cross-passage $k^{\times}$ is intercepted and closed by the end portion of the stem. Movement of the stem to close and to open this outlet is produced by the hand-wheel L, the screw-hub l, and the externally-threaded portion i of the body I.

Around the outlet $k^{\times}$ is a cylindrical rim or projection, k^2, with an external thread to take the coupling M. This part M is a sleeve with an enlarged end, m, screw-threaded to take over the part k^2, and with arms or spokes m^2 for screwing it on and off. It is fitted loosely over the tube N, to which the end of the pipe is permanently attached, and at the end is furnished with a conical head, p. The part k^2 is bored out of corresponding conical shape for a seat for this part p, and when the two are properly fitted together the passage $k^{\times}$ and the bore of the part N are in line. By screwing down the sleeve there is produced a tight joint at this connection, as the conical head p, being somewhat larger than the tube, is pressed firmly down to its seat and is at the same time perfectly centered. This coupling enables one receiver when exhausted to be disconnected and a new one put in its place without delay and without difficulty in confining the gas. At such time the valve E is first closed, the coupling is unscrewed by turning back the sleeve M, and this part is then connected to

the new receiver and screwed firmly into place. The pressure in the chamber C is brought up to the desired point by opening the valve E and raising the stem. The vessel C being connected with a keg of beer, the apparatus is operated as follows: The required pressure being known, the pointer of the gage H is brought to such point by increasing or diminishing the supply of gas from the receiver to produce such condition, and as this point falls back from time to time under the reduction taking place in the body of beer, and the consequent loss of gas, the attendant brings up the pressure by simply opening the valve a little wider.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

The herein-described apparatus for regulating and maintaining the supply of carbonic-acid gas to beer in casks at given pressure, consisting of the combination of the beer-cask, the tube D*, connecting the same with the receiver, and furnished with a regulating-cock, F, the receiver C, having pressure-gage H, the connecting-tube D, provided with a cock, E, and the gas-receiver A, provided with a valve composed of a valve-body, I, screw-cap J, cylindrical projection k^2 at right angles to the valve-body, the coupling M, surrounding said projection, and a tube, N, secured to the conducting-pipe, and having a conical head, *p*, the correspondingly-conical seat k^2 for said head, and the valve-stem having a hand-wheel, L, for its operation, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands and seals.

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