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C. HAEFNER.

APPARATUS FOR CHARGING RECEPTACLES FOR LIQUOR WITH GAS OR AIR.

(Application filed Oct. 27, 1897.)

(No Model.)

Fig. 1.

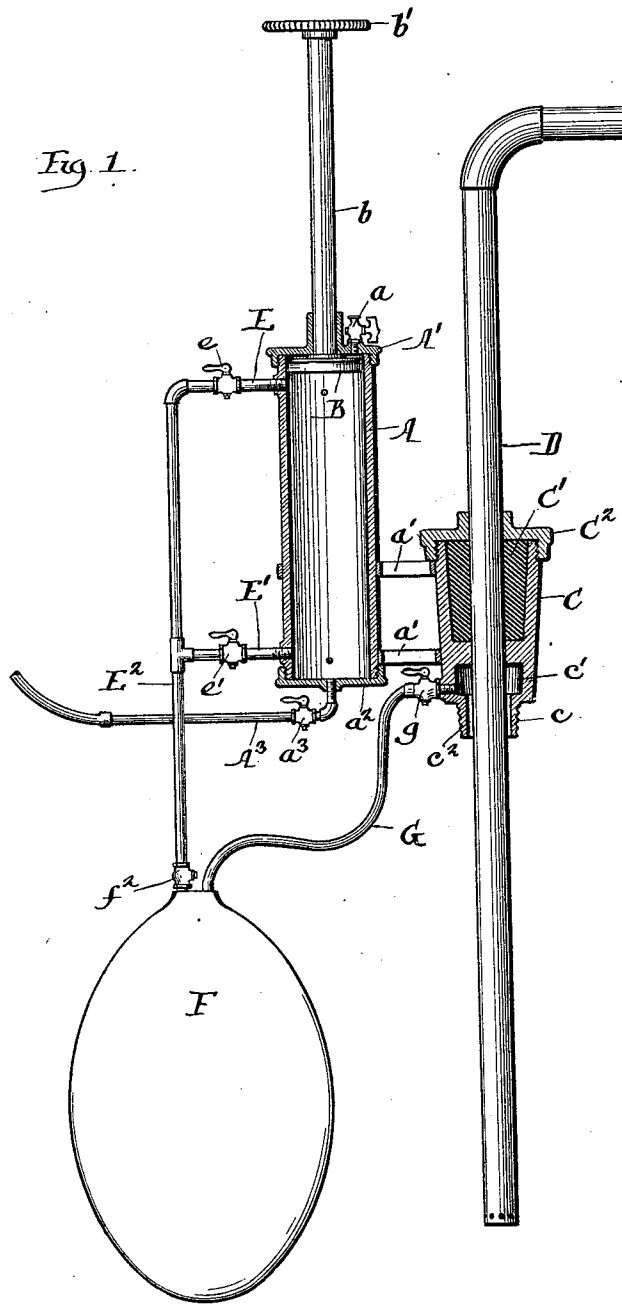
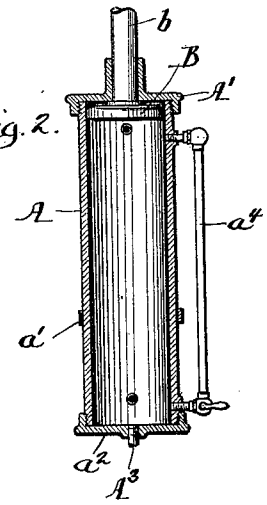


Fig. 2.



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APPARATUS FOR CHARGING RECEPTACLES FOR LIQUOR WITH GAS OR AIR.

SPECIFICATION forming part of Letters Patent No. 615,166, dated November 29, 1898.

Application filed October 27, 1897. Serial No. 656,593. (No model.)

To all whom it may concern:

Be it known that I, CARL HAEFNER, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Charging Receptacles for Liquor with Gas or Air, of which I do declare the following to be a full, clear, and exact description, sufficient to enable others skilled in the art to make and use the same.

The present invention has for its object to provide improved apparatus whereby air or carbonic-acid gas may be supplied to vessels containing beer or like liquors in order to facilitate the decanting of liquor from such vessels and where the apparatus is used in connection with carbonated liquids to better insure retaining in the liquid the gas with which it is charged.

The invention also consists of various features of improvement hereinafter described, illustrated in the accompanying drawings, and particularly defined in the claims at the end of this specification.

Figure 1 is a view, partly in elevation and partly in central vertical section, through an apparatus embodying my invention. Fig. 2 is a detail view in vertical section through the pump, the section being taken at right angles to that shown in Fig. 1.

A designates a pump-cylinder within which works a piston B, the stem *b* of which extends through the pump-cap A′ and is provided with a suitable handle *b′*, whereby it may be manipulated. The piston B is furnished with the usual cup-leather packing, whereby the easy upstroke of the piston is permitted. The cap A′ is preferably screw-threaded to the cylinder A and is provided with a valved vent-pipe *a*. The bottom a^2 of the cylinder A has connected thereto a pipe A^3, provided with a cock a^3, the purpose of this pipe A^3 being to admit water to the lower end of the pump-cylinder A. The pump-cylinder A is shown as connected, as by arms *a′*, to a plug C, the lower end *c* of which serves to close the bunghole or other opening in the vessel wherein the liquid is contained and into which the air and gas are to be forced, the reduced lower part *c* being preferably provided with a screw-thread to engage a correspondingly-threaded part in the opening of the vessel. The upper part of the plug C is chambered to receive a packing C′, and the top of the plug is closed by a cap C^2, threaded thereto. Through the plug C, the packing C′, and the cap C^2 extends the discharge-pipe D, by which the liquid will be withdrawn from the receptacle, (not shown,) the discharge of the liquid being governed by a suitable faucet *d*. The bottom part of the plug C is formed with a chamber *c′*, that will communicate, by an annular passage c^2, with the interior of the vessel into which the discharge-pipe D extends.

From the upper and lower portions of the cylinder A extend, respectively, the pipes E and E′, that connect with the pipe E^2, leading to a reservoir F, from which reservoir a pipe G extends to the chamber *c′* in the lower portion of the plug C. The pipe E is fitted with a cock *e*, the pipe E′ is provided with a cock *e′*, and the pipe G is furnished with a cock *g*. The lower end of the pipe E^2, where it enters the reservoir F, will be provided, as at f^2, with some familiar form of one-way valve to prevent the backflow of air or gas from the reservoir. Preferably the cylinder A will have openings adjacent its top and bottom that communicate with a glass gage-pipe a^4, as seen in Fig. 2, the purpose of this gage-pipe being to determine the height of a column of water within the cylinder.

When air alone is to be forced into the receptacle into which the lower end of the discharge-pipe D extends and onto the surface of the liquor therein, the cock *e* of the pipe E and the cock a^3 of the pipe A^3 and (preferably) the cock *g* of the pipe G will be closed and the valved vent-pipe *a* will be open. By operating the pump-cylinder B air will then be forced through the pipes E′ and E^2 down into the reservoir F, this reservoir F being preferably of rubber or like elastic material having sufficient strength, however, to retain the air under considerable pressure. When the desired pressure is had within the reservoir F, the cock *e* will be closed, and as liquor is drawn through the discharge-pipe D the cock *g* will be opened in order to supply to the vessel the necessary amount of air to re-

place the liquor so withdrawn and to maintain the required pressure within the vessel. The air within the reservoir F can be replenished from time to time by manipulating the pump-piston B and the disturbance or agitation of the liquor within the vessel in which the pipe D extends is avoided.

With beer or like carbonated liquids it is considered highly desirable to maintain a pressure of carbonic-acid gas within the vessel and upon the surface of the liquor. My invention provides a simple and effective means for accomplishing this end, and one important advantage of the invention is that it affords a simple means whereby carbonic-acid gas can be supplied to consumers with comparatively small vessels containing carbonated liquid. When carbonic-acid gas is to be supplied to the vessel containing the carbonated liquid, the cover A′ of the cylinder A will be removed and a quantity of bicarbonate of soda and tartaric acid will be placed within the bottom of the cylinder A. The cover A′ will then be replaced and the several cocks *e e′*, &c., will be at such time closed. The cock a^3 will then be opened and a small amount of water will be admitted to the lower part of the cylinder A, the height of the water within the cylinder being determined by the gage-glass a^4. The cock *e* will then be opened, so as to permit the gas generated within the cylinder A to pass into the reservoir F. The cock *g* will first be opened, thus permitting the gas from the reservoir F to pass on to the surface of the beer or like liquid contained within the vessel into which the pipe D dips. The cock *g* may be allowed to remain open, so as to maintain a pressure of gas constantly upon the surface of the beer, or the cock *g* may be opened only at such times as beer is withdrawn through the faucet *d*. When the supply of chemicals within the cylinder A is to be replenished, it will be understood that the cocks *e*, *e′*, and a^3 will be closed and the cap A′ of the cylinder A will be removed for such purpose. When the cap A′ is replaced upon the cylinder A and water is admitted through pipe *a* to the bottom of the cylinder, the generation of the gas within the cylinder A will then occur and the supply of gas within the reservoir F may be replenished.

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

1. An apparatus for charging receptacles containing liquor with air or gas, comprising a plug or nozzle for closing the mouth of the receptacle, a vertical pump-cylinder and piston, a discharge-pipe for air leading from the lower end of said cylinder and suitably connected with said plug or nozzle, a second discharge-pipe for gas connected to said cylinder below the extreme upper position of the piston, said second discharge-pipe being also connected with said plug or nozzle, suitable cocks for said discharge-pipes and suitable means for admitting water to said cylinder, whereby the receptacle containing liquor may have air forced into it or may be charged with carbonic-acid gas.

2. An apparatus for charging receptacles containing liquor with air or gas, comprising a plug or nozzle for closing the mouth of the receptacle, a vertical pump-cylinder and piston, a discharge-pipe for air leading from the lower end of said cylinder, a second discharge-pipe for gas leading from the upper part of said cylinder below the extreme upper position of the piston, a reservoir to which both of said discharge-pipes are connected, a connection leading from said reservoir to said plug or nozzle, a pipe for admitting water to said pump-cylinder, said several pipes being provided with cocks whereby the reservoir may be charged with air alone or with carbonic-acid gas from the pump-cylinder.

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