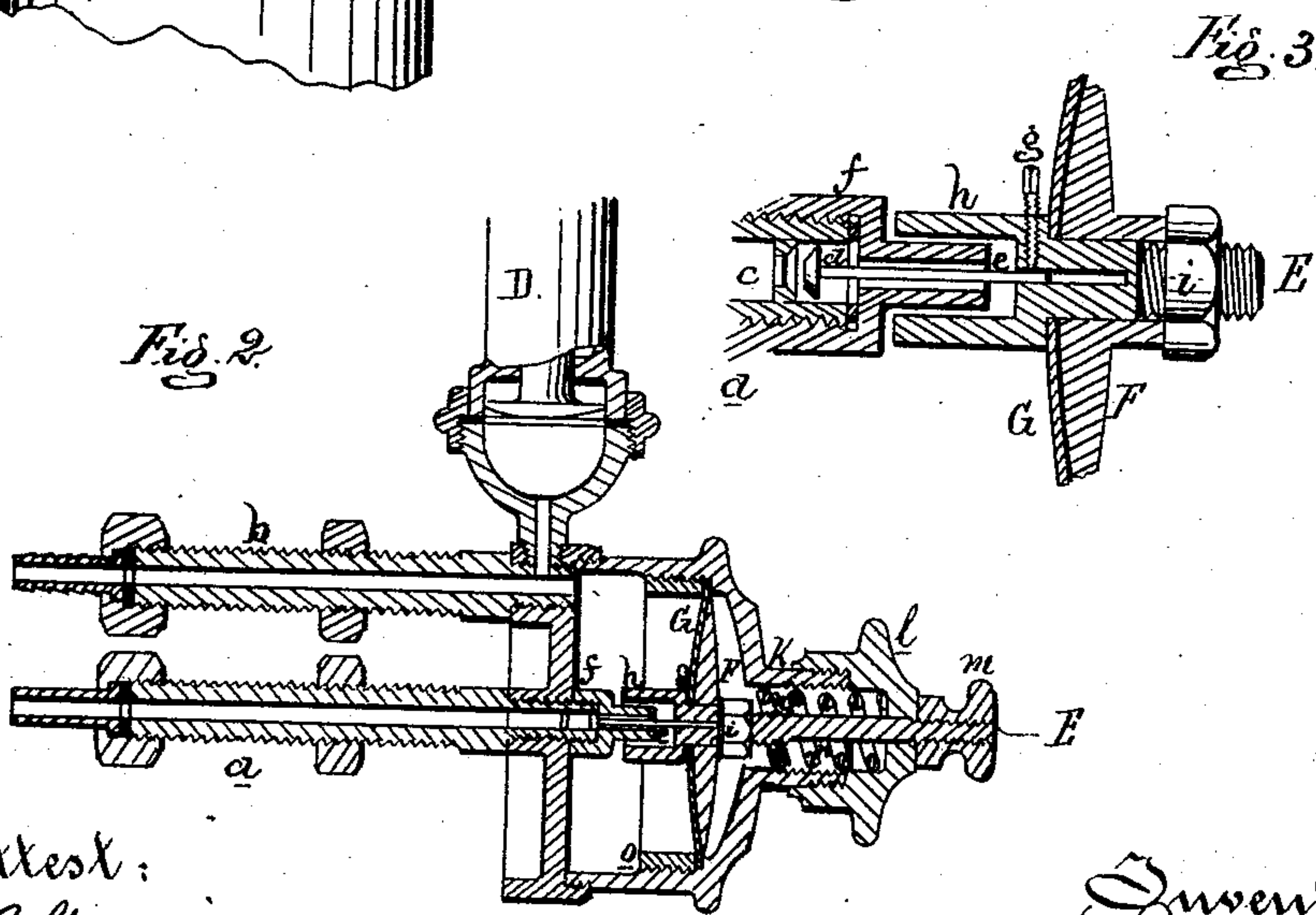
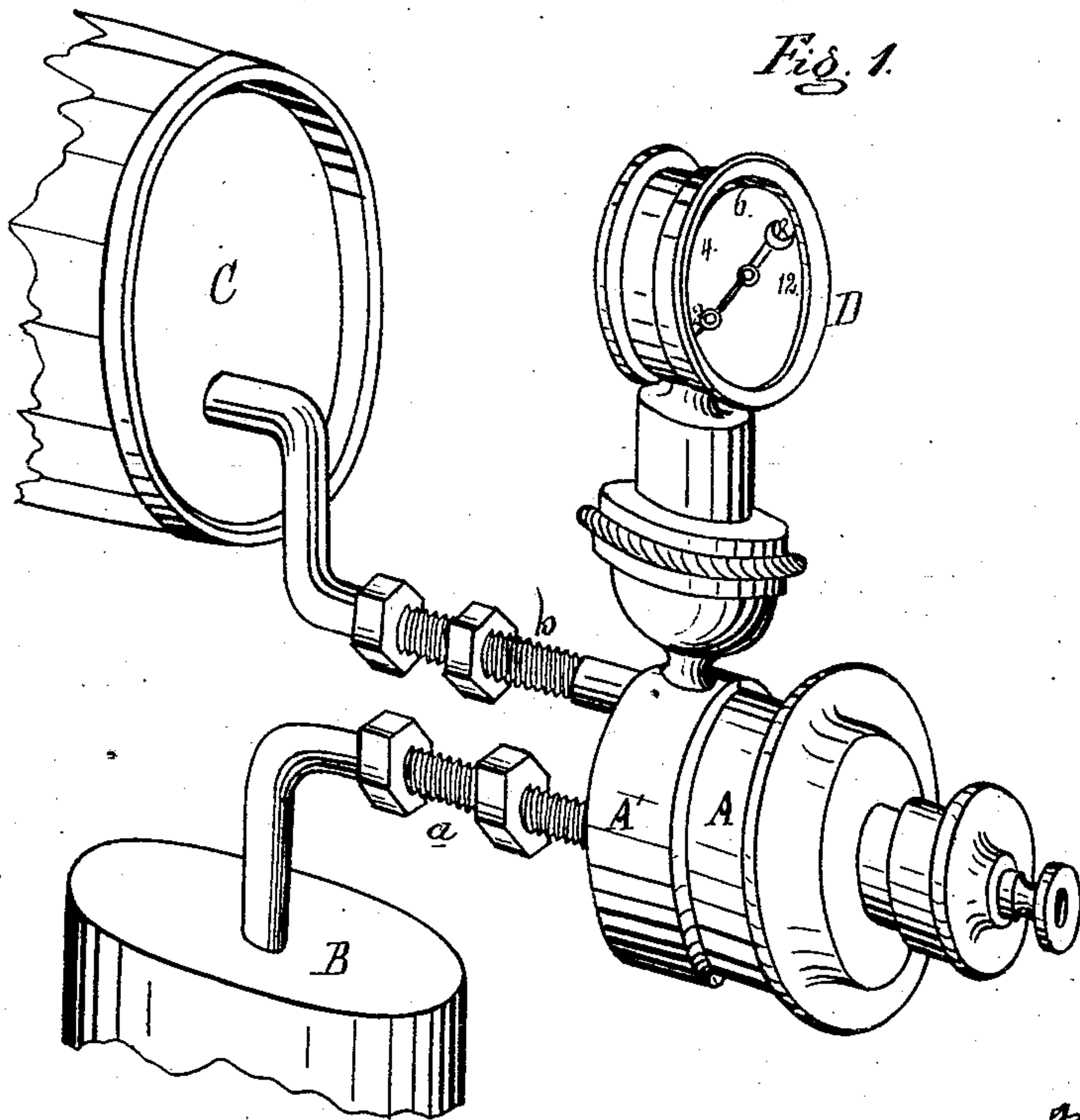


J. C. KENNEDY.

Devices for Charging Beer with Gas.

No. 157,181.

Patented Nov. 24, 1874.



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# UNITED STATES PATENT OFFICE

JOHN C. KENNEDY, OF GOSHEN, INDIANA, ASSIGNOR TO HIMSELF AND  
HENRY KILEY, OF TOLEDO, OHIO.

## IMPROVEMENT IN DEVICES FOR CHARGING BEER WITH GAS.

Specification forming part of Letters Patent No. 157,181, dated November 24, 1874; application filed  
July 20, 1874.

*To all whom it may concern:*

Be it known that I, JOHN C. KENNEDY, of Goshen, in the county of Elkhart and State of Indiana, have invented a Device for Charging Beer-Casks with Gas, of which the following is a specification:

The object of my invention is to provide a device to be intermediately connected with a holder, containing carbonic-acid gas under high pressure, and a beer-cask, for the purpose of maintaining a supply of gas in the cask at a less pressure than exists in the gas-holder, thereby enabling the beer to be kept fresh and lively for a long time after its cask is tapped. The invention consists in peculiar construction and arrangement of the various parts, as more fully hereinafter set forth.

Figure 1 represents, in perspective, my device as connected with a beer-cask and a gas-holder. Fig. 2 is a longitudinal vertical section. Fig. 3 is an enlarged sectional detail of the valve, spindle, and diaphragm.

In the drawing, A is a circular case, open at one end, which is made to screw into a flange upon the periphery of a circular back piece, A', from the center of which a pipe, *a*, projects to the rear, and which is provided with a union or other coupling for connecting it to a gas-holder, B, and above with a pipe, *b*, to be connected by a flexible pipe with the beer-cask C. The back piece A' is surmounted by a pressure-gage, D, whose base is connected with the passage leading to the pipe *b*. At the inner end of the pipe *a*, a seat, *c*, is formed, against which a valve, *d*, mounted on a stem, *e*, may seat itself, the stem playing loosely through a larger bore in a cap, *f*, screwed on the inner end of said pipe *a*; and is secured by a set-screw, *g*, in the bottom of a socket, *h*, at the inner end of a spindle, E, which protrudes through a screw-cap, *l*, on the neck of the case-cover; and on its outer end is screwed a nut, *m*. A seat for the valve is also formed in the cap *f*. G is a sheet-rubber diaphragm, confined at the periphery to a shoulder in the case A by an internal screw-ring, *o*, and through which the spindle E is inserted until

its socket *h* rests against said diaphragm, on the outer side of which a disk, F, is secured by a nut, *i*, on the spindle. A strong spiral spring, *n*, Fig. 2, is placed on the spindle, resting on the nut *i*, and is compressed by the screw-cap *l*.

The holder is charged with carbonic-acid gas at a high pressure—say, three hundred pounds to the square inch—and is connected with the pipe *a* by a flexible tube. The beer-cask is connected with the pipe *b* in like manner. The cap *l* is screwed down on the spring *n* until the latter is compressed with force enough to just keep the valve *d* on the seat in the cap *f*, as against the pressure of the gas in the holder upon said valve *d*, and the pressure of the contents of the cask upon the diaphragm G. When the pressure in the cask is reduced by the withdrawal of a portion of its contents, the spring forces the valve *d* off its seat in the cap, allowing gas from the holder to flow past the valve, spindle, and out from the socket *h* into the case, thence through the pipe *b* into the cask until there is pressure enough in the latter acting upon the diaphragm, combined with that upon the valve from the gas-holder, to push forward and seat the valve again, closing the case to the further admission of gas. The spring may be compressed so as to have it act when the pressure in the cask falls below a given limit, say, six pounds to the square inch, while the nut *m* regulates the play of the valve, which nut may be unscrewed to let the valve close against the seat *c*, and thus shut off the gas entirely, if desired.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of case A A', provided with the pipes *a b* and gage D, of the valve *d*, stem *e*, cap *f*, spindle E, socket *h*, disk F, diaphragm G, nut *i*, cap *l*, nut *m*, and spring *n*, substantially as and for the purpose set forth.

JOHN C. KENNEDY.

Witnesses:

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