

(No Model.)

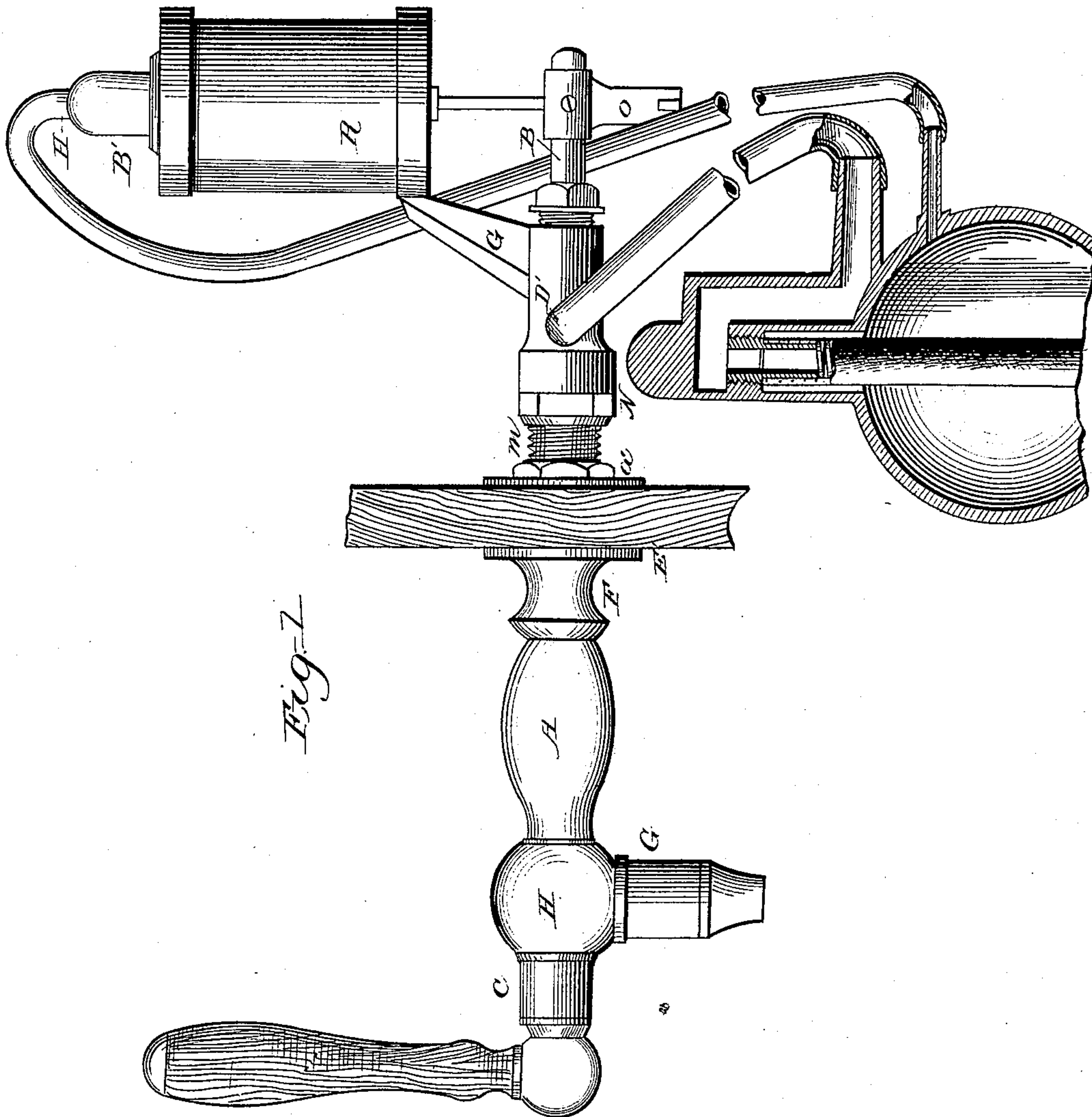
2 Sheets—Sheet 1.

M. L. DEERING.

BEER FAUCET AND AIR PUMP COMBINED.

No. 326,482.

Patented Sept. 15, 1885.



Witnesses.

J. M. Reynolds
J. Frank White.

Inventor

Mark L. Deering
per O. E. Duffy
Atty.

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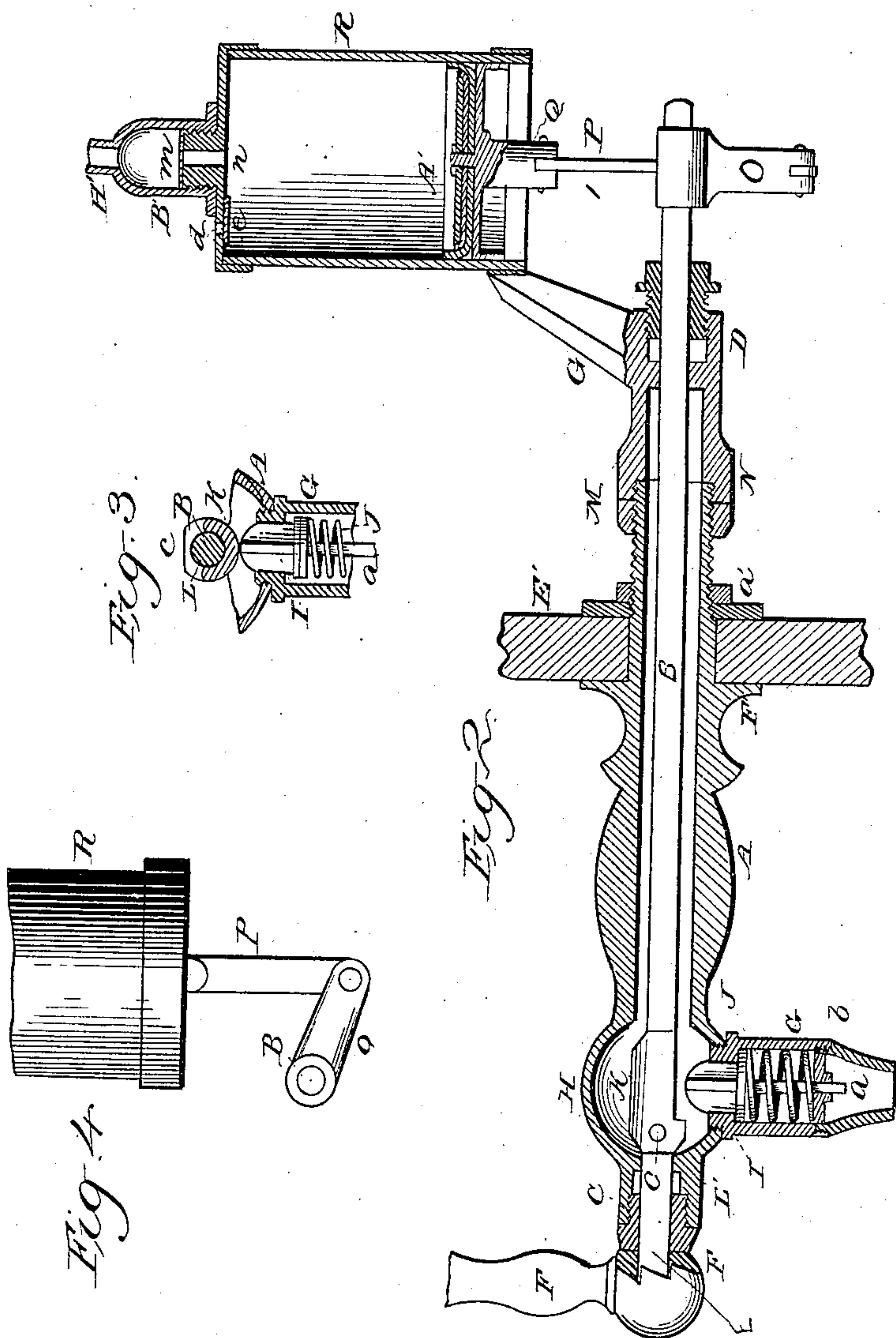
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UNITED STATES PATENT OFFICE.

MARK L. DEERING, OF CLEVELAND, OHIO.

BEER-FAUCET AND AIR-PUMP COMBINED.

SPECIFICATION forming part of Letters Patent No. 326,482, dated September 15, 1885.

Application filed December 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, MARK L. DEERING, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful
5 Improvements in Beer-Faucet and Air-Pump Combined, and I do hereby declare that the following is a full and complete description thereof.

The above said improvement is for supplying
10 barrels containing beer or other liquor with air during the time that the beer is being drawn and thereby produce and continue a pressure upon the contents of the barrel that it may readily flow therefrom on opening the
15 faucet for that purpose.

Of the drawings accompanying this specification, and making a part of the same, Figure 1 represents an external side view of the combined faucet and pump. Fig. 2 is a transverse
20 longitudinal section. Fig. 3 is a detached section. Fig. 4 is a rear end view of the faucet.

Like letters of reference refer to like parts in the several views.

25 The faucet-section of the device alluded to consists of a tubular arm, A, in which is journaled a shaft, B, smaller in its diameter than the bore of the arm; hence there is considerable space between the sides of the bore and the shaft, as seen in Fig. 2. The shaft is
30 made close-fitting in the arm by stuffing-boxes, respectively C and D, near the ends thereof.

To the end E of the shaft is secured a handle, F, whereby the shaft is actuated for operating an air-pump, hereinafter described.
35

The outlet or nozzle of the faucet consists of a valve-chamber, G, screwed into the bulb H thereof.

40 I is the valve which is retained in tactical relation with its seat, as seen in Fig. 2, by the resiliency of the spring J, through which the stem *a* of the valve passes down to and through a center or spider, *b*, for guiding the movement of the valve. Said valve is an ordinary wing or puppet one, hence a description of it is not essential in this place.
45

On that part of the shaft within the bulb H of the faucet is secured a cam, K, by means of a collar, L, inclosing the shaft and made
50 fast by a screw, *c*. A transverse sectional view of the shaft and cam, taken through the line *x x*, is shown in Fig. 3. It will be noticed

in the drawings that the cam is so adjusted on the shaft as to bring it directly above the valve, upon the end of which it impinges, for
55 opening the valve, for a purpose presently shown.

On the end M of the faucet is screwed a sleeve, N, forming a continuation of the faucet and through which the shaft passes and
60 made tight in the sleeve by the stuffing-box D above referred to.

To the end of the shaft, projecting beyond the sleeve N, is secured an arm, O, in which is pivoted one end of a connecting-rod, P,
65 whereas the opposite end of the rod is hinged to the stem Q of the piston of an air-pump. Said pump consists of a cylinder, R, of which A' is the piston and Q the stem, whereby it is connected to the arm O by the rod P, as before mentioned.
70

In the top of the cylinder is an air-induction port, *d*, provided with an inward-opening valve, *e*.

B' is an air-chamber attached to the top of
75 the cylinder, in which is an upward-opening valve, *m*, covering the air-port *n'*, communicating the cylinder with the air-chamber, of which chamber H' is the outlet. The above said air-pump is or may be like those in ordinary use; hence a further description thereof is not necessary in this place.
80

In the side of the sleeve N above alluded to projects a nozzle, D, the bore of which is in open communication with the bore of the
85 faucet, the use of which will presently appear.

The special use of the above-described mechanism is for drawing beer from a barrel, and at the same time to pump air into the
90 barrel to produce a pressure on the liquor to cause it to flow freely therefrom on opening the faucet, the opening of which operates the air-pump simultaneously therewith so that the faucet and the pump have a co-ordinate relation with each other for the purposes specified.
95

The practical operation of the above mechanism is as follows: As shown in the drawings, E' represents a wall or side of a refrigerator or room wherein the barrel from which liquor is to be drawn is placed. Through
100 said wall the screw end of the faucet is passed and secured therein by the flange F' on the

outside of the wall, which is drawn tightly thereto by the nut *a'* on the opposite side of the wall of the refrigerator or room, as shown in Fig. 2. On the end of the faucet within the refrigerator is screwed the sleeve N, to which the air-pump is connected by the arm G', thus placing said sleeve and the air-pump in the refrigerator with the barrel therein, from which liquor is to be drawn, whereas the faucet is on the outside, as shown in the drawings. By means of a flexible tube slipped on over the nozzle D', above referred to, the faucet is put in communication with the barrel of beer in the refrigerator. (Not shown.)

The position of the faucet and pump, as shown in Figs. 1, 2, and 4, is such as when closed. Now, in order to draw liquor from the barrel the handle F is pulled forward. This action will turn the shaft B and bring the cam K down upon the valve and force it open, as seen in Fig. 3. This opening of the valve does at the same time push upward the piston in the cylinder R, which forces the air therefrom through the port *n* and chamber B' into the barrel connected to the nozzle H' of the chamber by a tube or hose. (Not shown in the drawings.) The air-pressure thus exerted upon the contents of the barrel forces it therefrom into the bore of the faucet around the shaft, and is discharged therefrom through the open port of the valve I, and passes down through and out of the nozzle G. The flow of beer from the barrel is stopped by pushing the handle F in the opposite direction from that above said, which will remove the cam from the valve, and which will now be closed by the resiliency of the spring J, as seen in Fig. 2. Simultaneous with the closing of said valve the piston of the pump is drawn down and the valve *e* opens for refilling the pump with air, and the valve *m* closes by the reaction of the air pumped into the barrel. On again drawing the handle forward the valve I is opened by the cam as before, and the pump worked for forcing air into the barrel, as and for the purpose above described;

and so on, as long as the handle is worked, there is a co-ordinate and simultaneous operation of the valve I and the air-pump for drawing off the contents of the barrel.

It is not essential that the faucet be attached to the wall or side of a refrigerator, as it may be secured to a counter or other place and connected to a barrel for the purpose set forth.

The bung-top herein shown forms the subject-matter of a separate application.

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

1. In combination with the tubular stem A, the sleeve N, forming a continuation thereof, and provided with a stuffing-box and a projecting bracket, G, the air-pump supported on said bracket, the shaft passing through and projecting from said sleeve, and connections between the air-pump and shaft, as set forth.

2. In a faucet having arranged longitudinally throughout the bore thereof a shaft carrying a cam adjusted thereon, a spring-valve in the nozzle adapted to close the opening in the nozzle of the faucet at the opposite end, a sleeve provided with an opening for a pipe or hose, and an opening for and having the end of the shaft B projecting from the said sleeve connected to an air-pump for forcing air into the barrel to which the pump is connected, substantially in the manner as herein set forth.

3. In combination, the tubular stem of a faucet, a spindle or shaft extending entirely through and projecting from each end thereof, a valve, a cam or eccentric mounted on said shaft within the tubular stem for operating said valve, a handle secured on one of the projecting ends of the shaft, a crank secured on the other projecting end, and an air-pump operated by said crank, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

MARK L. DEERING.

Witnesses:

W. H. BURRIDGE,
J. H. BURRIDGE.