

(No Model.)

J. M. VAN FLEET.
VESSEL FOR BEVERAGES.

No. 505,073.

Patented Sept. 12, 1893.

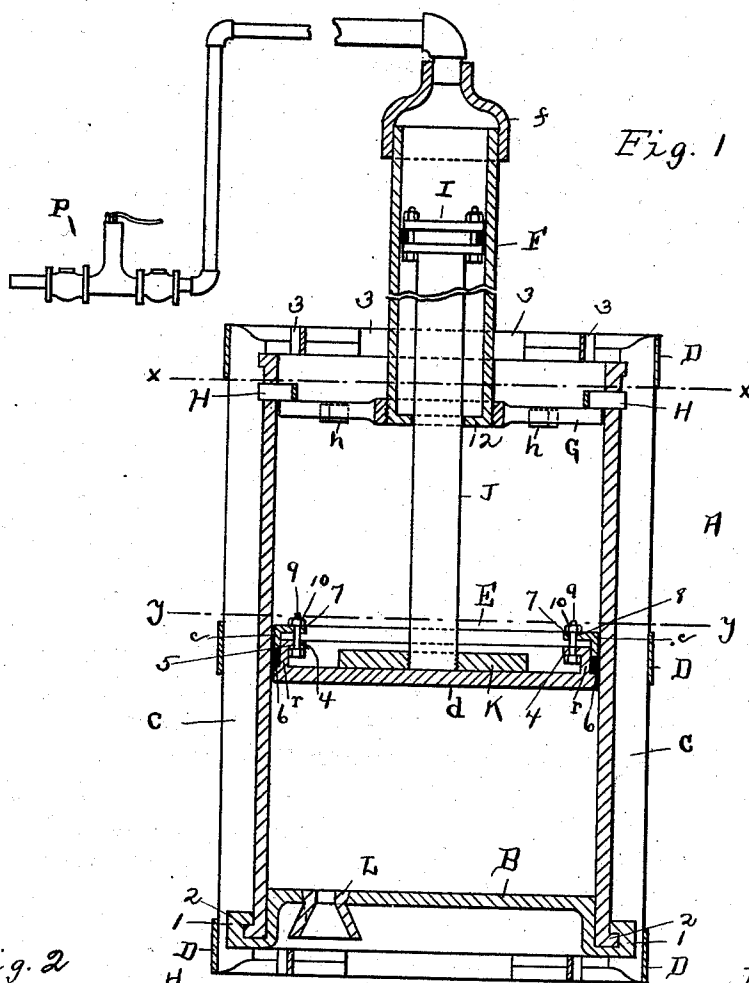


Fig. 1

Fig. 2

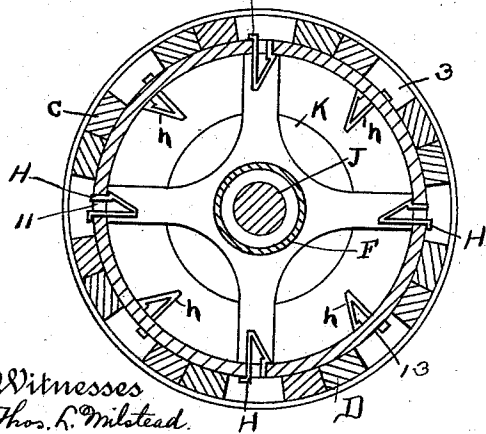
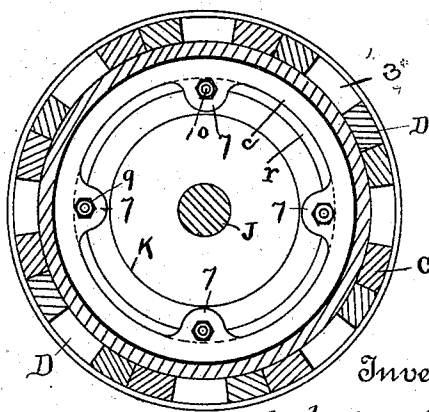


Fig. 3



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VESSEL FOR BEVERAGES.

SPECIFICATION forming part of Letters Patent No. 505,073, dated September 12, 1893.

Application filed December 6, 1892. Serial No. 454,275. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. VAN FLEET, a citizen of the United States of America, residing at Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Vessels for Storing, Transporting, and Handling Gaseous Beverages, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in vessels adapted for storing, transporting, and handling gaseous beverages, particularly beer; and in the main it has reference to the mechanism employed for excluding air from the interior of the vessel and for maintaining a practically uniform gas-pressure on the beverage in the vessel while the beverage is being withdrawn in large or small quantities. The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 is a vertical sectional view of a vessel embodying my improvements, showing means for depressing the follower by air or water pressure. Fig. 2 is a horizontal section taken on the line *xx*, Fig. 1, showing the removable spider for supporting the follower-operating mechanism. Fig. 3 is a horizontal section taken on the line *yy*, Fig. 1.

Referring to the drawings, A represents a metallic cylinder, closed at the bottom and open at the top. The bottom B is secured in place preferably by pressing a flange 1 on it over a flange 2 on the cylinder. In order to avoid oxidation of the metal and to give a smooth surface, the inner side of the cylinder should be enameled.

To avoid the liability of injury to the cylinder while being handled in transportation I prefer to provide it with wooden staves C on the outer side, which are secured thereon by hoops D. The outer surface of the cylinder is not entirely covered by the staves, they being so placed as to leave spaces 3 between them. Were the cylinder surrounded entirely by the staves the latter would materially retard the cooling of the beverage in the vessel by the cold air in the cooling-room or refrigerator; but by leaving these spaces between the staves the cold air comes directly in contact with the cylinder.

To keep the beverage in the vessel fresh of course the air must be excluded; and to regulate the pressure of the carbonic-acid gas inherent in beer and some other beverages means must be provided for varying the space within which the beverage is confined—that is to say, to diminish that space as the beverage is drawn while on tap. For these purposes (excluding the air and regulating the gas-pressure) I have devised a follower of peculiar construction, which will now be fully described. E is the follower, which consists of a disk *d*, having a short distance from its outer edge a rim *r*, which has inward-projecting lugs 4 at suitable intervals, bolt-holes 5 being formed in these lugs. Around the rim *r* and bearing on the disk *d* is placed a packing 6 of rubber or other suitable material, which is held in position, and adjusted as regards outward expansion by means of a compressing-ring *c*, provided with inward-projecting lugs 7, having bolt-holes 8 adapted to register with the bolt-holes 5 in the lugs 4. Bolts 9, having nuts 10, serve to adjustably attach the compressing-ring *c* to the disk *d*. It will be observed that the compressing-ring serves not only to properly distend the packing 6, but also to give a prolonged bearing to the follower, so that it cannot be canted out of its true position. F is a pipe, one end of which is screwed into a spider G, by which it is supported centrally within the cylinder, the spider being held removably in the cylinder by means of a series of spring-keys H, which pass through slots 11 in the cylinder and against which the top side of the spider-arms abut. When the cylinder is provided with staves, the latter are so positioned as not to cover the key-openings 11, as shown in Fig. 2. On the outer end of pipe F is secured a reducer *f*, with which to couple the connections of a pump P to force air or water into the pipe to actuate the piston. I is a piston, fitted within the tube F, and provided with a rod J, which is supported by an inward-turned flange 12 on the inner end of pipe F, which flange also serves to prevent the piston from passing through that end of the pipe; and on the lower end of rod J there is secured a metal plate K, designed to bear on disk *d*, and thereby distribute the pressure exerted on the disk by

the piston and its rod, so as to avoid spring-
ing of the disk, for it will be understood that
the follower is designed to be made of compar-
atively thin metal. It will be apparent
5 that when the cylinder is first filled with beer,
and before the spider has been introduced,
the follower E would bear against the keys
H, thereby interfering with the introduction
of spider G. To avoid this I provide the cyl-
10 nder with another set of slots 13, into which
are inserted the follower-retaining keys *h*,
the distance between the two sets of keys H
and *h* being equal to or a little more than the
depth of the spider. I is a cone-shaped tap-
15 ping-spout, which is adapted to hold the bung
when the cylinder is filled, or to receive the
end of the faucet when the beverage is on
draft.

The operation of my apparatus is as fol-
20 lows: The spring-keys *h* and H being re-
moved and the follower E withdrawn, the
cylinder may be cleaned, after which the fol-
lower is replaced and the spring-keys *h* in-
serted to hold it in place. The cylinder is
25 then filled with the beverage through the tap-
ping-spout, and the bung driven in. Spring-
keys H may be then inserted into their re-
spective slots. The beverage is then ready
for cooling and storage or shipment. When
30 it is desired to withdraw the liquid, as is
usual when on tap, the spider is inserted be-
neath the spring-keys H, the pump connected
to reducer *f*, and the cylinder tapped as usual.
Pressure being now applied to the follower
35 F by means of the pump, the liquid is forced
out through the faucet as desired.

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

40 1. The combination, with a cylinder open
at one end and closed and provided with a
tap-spout at the other end, of a follower fitted
air-tight in the cylinder, unattached means
for moving the follower forward, and remov-
45 able stops for limiting the backward move-
ment of the follower.

2. The combination, with a cylinder open
at one end and closed and provided with a
tap-spout at the other end, of a follower fitted
50 air-tight in the cylinder and comprising a
disk having a rim near its edge and inward-
projecting lugs on the rim, an elastic packing
on the outer side of the rim, a compressing-
ring bearing on the packing and having in-

ward-projecting lugs, bolts passed through 55
the lugs on the rim and ring, and nuts on the
bolts, unattached means for moving the fol-
lower forward, and removable stops for limit-
ing the backward movement of the follower.

3. The combination, with a cylinder open 60
at one end and closed and provided with a
tap-spout at the other end, said cylinder hav-
ing two series of slots near its open end, of a
follower fitted air-tight in the cylinder, a
spider movable in the cylinder, a rod sup- 65
ported by the spider and adapted to move the
follower forward, means for operating the rod,
and two series of spring-keys removably fitted
in the slots in the cylinder, one series serving
as a bearing for the spider and the other ser- 70
ies serving to limit the rearward movement
of the follower.

4. A receptacle for gaseous beverages, com-
prising a metal cylinder surrounded by wooden
staves placed so as to leave open spaces be- 75
tween them, said cylinder being open at one
end and closed and provided with a tap-spout
at the other end, in combination with a fol-
lower fitted air-tight in the cylinder, unat-
tached means for moving the follower for- 80
ward, and removable keys passed through
slots in the cylinder, near its outer end, for
limiting the backward movement of the fol-
lower, said slots being located between the
85 staves.

5. The combination, with a cylinder open
at one end and closed and provided with a
tap-spout at the other end, said cylinder hav-
ing two series of slots near its open end, of
a follower fitted air-tight in the cylinder, a 90
spider movable in the cylinder, a pipe secured
at one end in the spider and having an in-
ward-projecting flange, a piston in the pipe,
a rod secured to the piston and carrying a
plate adapted to bear against the follower, a 95
pump connected to the pipe above the piston,
and two series of spring-keys located remov-
ably in the slots in the cylinder, one series of
said keys serving as a bearing for the spider
and the other series serving to limit the back- 100
ward movement of the follower.

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

J. M. VAN FLEET.

Witnesses:

HENRY E. COOPER,
M. C. MASSIE.