

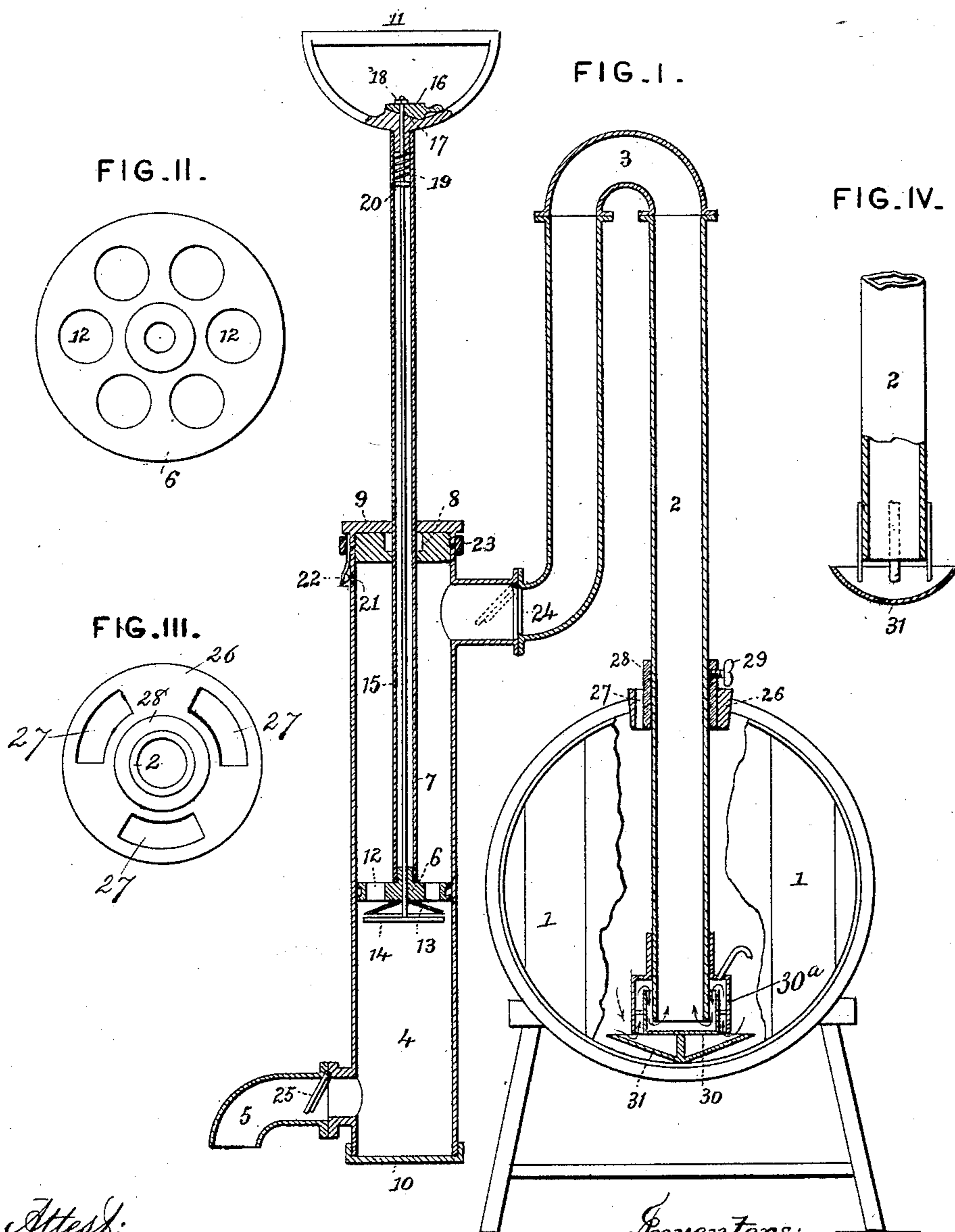
(No Model.)

L. C. BRICKENSTEIN & C. A. BABENDREIER.

DEVICE FOR DECANTING LIQUIDS.

No. 360,557.

Patented Apr. 5, 1887.



Attest:

Geo. T. Smallwood,
Edward Steer,

Inventors:

Laurence C. Brickenstein,
Charles A. Babendreier

By Knight & Bro

attys

UNITED STATES PATENT OFFICE.

LAURENCE C. BRICKENSTEIN AND CHARLES ALBERT BABENDREIER, OF
BALTIMORE, MARYLAND.

DEVICE FOR DECANTING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 360,557, dated April 5, 1887.

Application filed July 7, 1886. Serial No. 207,351. (No model.)

To all whom it may concern:

Be it known that we, LAURENCE CHARLES BRICKENSTEIN and CHARLES ALBERT BABENDREIER, both citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Devices for Decanting Liquids, of which the following is a specification.

Our improvements particularly relate to the form of decanting devices described in our application Serial No. 185,863, filed December 16, 1885, which have for object the drawing off of liquids from casks or other vessels when they have some covering—such as oil—to protect them from the outside air.

Our invention will first be fully described with reference to the accompanying drawings, and the novel features will then be pointed out in the claims.

In the drawings, Figure I is a vertical sectional view of a cask and of our improved decanting device applied thereto. Figs. II and III are details in horizontal section illustrating the form of the perforated piston and bung. Fig. IV is a sectional detail of the lower end of the supply-tube of the decanting device, illustrating a modified form of guard.

We have shown the decanting device of large size and applied to a cask, 1. It is apparent, however, that the former may be made of various sizes, and is appropriate for use on any liquid-containing vessel.

The instrument is of siphon form, having supply tube or member 2 and discharge tube or member 3 4, the latter terminating in a spout or nozzle, 5. The portion 4 of the discharge-tube is preferably so arranged with reference to supply-tube 2 that when the latter is in position in the vessel the portion 4 will be nearly or perfectly vertical. Within the portion 4, which serves as a cylinder, we arrange a piston, 6, carried by a rod, 7, which works in a stuffing-box, 8, in the cap 9 of the cylinder. A screw-cap, 10, forms the bottom of the cylinder, and is readily removed for purpose of cleaning. At its upper end the piston-rod 7 has a handle, 11, by means of which the piston is operated. The piston is perforated, as shown at 12, so as to permit liquid to flow therethrough. Flow upwardly is prevented by a flexible valve, 13, which

closes upwardly against the perforations 12 automatically when the piston is forced down, or which may be forced tightly against the under side of the piston to permanently close said perforations at will by means of a plate or disk, 14, carried by a rod, 15, which passes upward through hollow rod 7, and is raised so as to bring plate 14 against valve 13 by means of a cam-shaped lever, 16, bearing between an inclined surface, 17, on the handle 11 and a nut or head, 18, on the upper end of rod 15. A spring, 19, surrounding rod 15 and bearing between the handle and a collet or stud, 20, on said rod, insures the return of the plate or disk 14 to its lowermost position whenever the rod 15 is released by cam-lever 16.

21 is an air-escape port, closed normally by an outwardly-opening spring-valve, 22. This valve may be held fixedly in position by means of a ring, 23, surrounding the cylinder and adapted to slide thereon; or any equivalent retaining device—such as a pivoted button—may be adapted for fixing valve 22, when desired.

At 24 and 25 are provided check-valves, opening outwardly, which assist the action of the instrument when used as a pump.

In Fig. III is shown the form of bung preferably employed. In this the wooden portion 26 is provided with a number of perforations, 27, which allow air to enter the cask and fill the space over the liquid while the lower portion of such liquid is being decanted. A metal sleeve, 28, in the bung has a set-screw, 29, which enables the fixing of the supply-tube 2 at any desired height in the vessel.

In Fig. I, at 30 30^a, is shown a form of guard for the lower end of the supply-tube similar to that shown and described in our application for Letters Patent already referred to, and which has for its object the prevention of entry of the "topping" of oil into the supply-tube. At 31 is shown a cap which covers the supply-aperture of the guard in such manner that, while the main body of liquid in the vessel may freely enter the supply-tube, sedimentary matters forming the lower layer of liquid will not be drawn off.

In Fig. IV the cap 31 is shown applied to the lower end of the supply-tube, the guard 30 being omitted.

The several parts of the device having thus

been described in detail, the method of operation is as follows: If the vessel from which liquid is to be decanted be small, and the supply-pipes 2 and 3 of cylinder 4 consequently not of great length, the device may be used as a siphon, a single depression of the piston serving to start the siphoning action. To this end, the valve 22 having first been released, the piston is rendered solid by turning lever 16 and raising disk 14. The piston then being raised will force out through valve 22 all air in the upper part of the cylinder. The clack-valve 24 prevents the passage of the air into the vessel and the consequent disturbing of the liquid. When the piston 6 rises above the junction of pipe 3 and cylinder 4, the air in parts 2 and 3 expands into cylinder 4, and on the re-descent of piston 6 the liquid in the vessel follows it until it descends below nozzle 5, through which the liquid is discharged. The siphoning action thus started is maintained until the desired quantity of liquid has run out, when by raising the piston above nozzle 5 the flow is stopped. When the supply-pipe is of great length and the flow not so ready, the device is used as a pump to start the flow or to continue it when it becomes weak. To this end the valve 22 is fixed in its seat and the disk 14 depressed. The piston then being reciprocated will cause a constant flow, first of air and then of liquid, through nozzle 5. The flow may be stopped at any time by raising disk 14, or, the flow having been started thus by pumping, the piston may be forced down below nozzle 5, and the siphon be depended on for continuing the flow.

It is apparent that for some uses the piston may be made perfectly solid in ordinary form, the remaining portions of the instrument remaining as shown.

Having thus described our invention, the following is what we claim as new therein and desire to secure by Letters Patent:

1. In a decanting device, the combination, with a cylinder closed at both ends and the supply and discharge tubes opening thereinto at top and bottom, respectively, of a perforated piston fitted in said cylinder, a rod for operating said piston, and a clack-valve secured to the under side of said piston, substantially as and for the purpose set forth.

2. In combination with the supply and discharge tubes of a decanting device and an outwardly-opening valve in each, a cylinder

connecting said tubes, a perforated piston in said cylinder having an operating-rod, and a valve supported under said piston for automatically closing upward against the perforations therein when the piston is depressed, substantially as set forth.

3. In a decanting device, the combination, with a cylinder closed at both ends and supply and discharge tubes communicating with said cylinder some distance from its respective ends, of a perforated piston in said cylinder having an operating-rod, a valve for closing the perforations in said piston, and a disk and operating-rod therefor for pressing said valve against said piston, substantially as set forth.

4. In combination with the supply and discharge tubes of a decanting device, a closed cylinder connecting said tubes, a piston in said cylinder, and outwardly-opening valves in said tubes and in the upper end of said cylinder, substantially as and for the purpose set forth.

5. In combination with the cylinder of a siphon and a valved piston therein, an outwardly-opening valve in the upper part of said cylinder and locking mechanism for retaining said valve against its seat when desired, substantially as set forth.

6. In combination with the supply-tube of a decanting device, a cylinder into which the same discharges, an outwardly-opening valve in said supply-tube, a piston in said cylinder, and an automatically-closing valve located above said piston and opening outwardly, substantially as set forth.

7. In a decanting device, the combination, with the tube 2 3 and cylinder 4, of the perforated piston 6, the hollow stem 7, the plate 14, the rod 15, for drawing said plate up into contact with the under side of the piston 6, and the spring 19, for forcing said plate away from said piston, substantially as set forth.

8. In a decanting device, the combination, with the supply-tube and a guard for preventing the admission of topping fluid, of a cap for preventing the admission of sedimentary matter to the supply-tube, substantially as set forth.

LAURENCE C. BRICKENSTEIN.
CHARLES ALBERT BABENDREIER.

Witnesses:

RICH'D. BERNARD,
C. C. MOHDIN.