(No Model.)

J. C. CONDÉ.

LIQUID TESTING DEVICE.

No. 569,783. Patented Oct. 20, 1896.

FIG. 1.

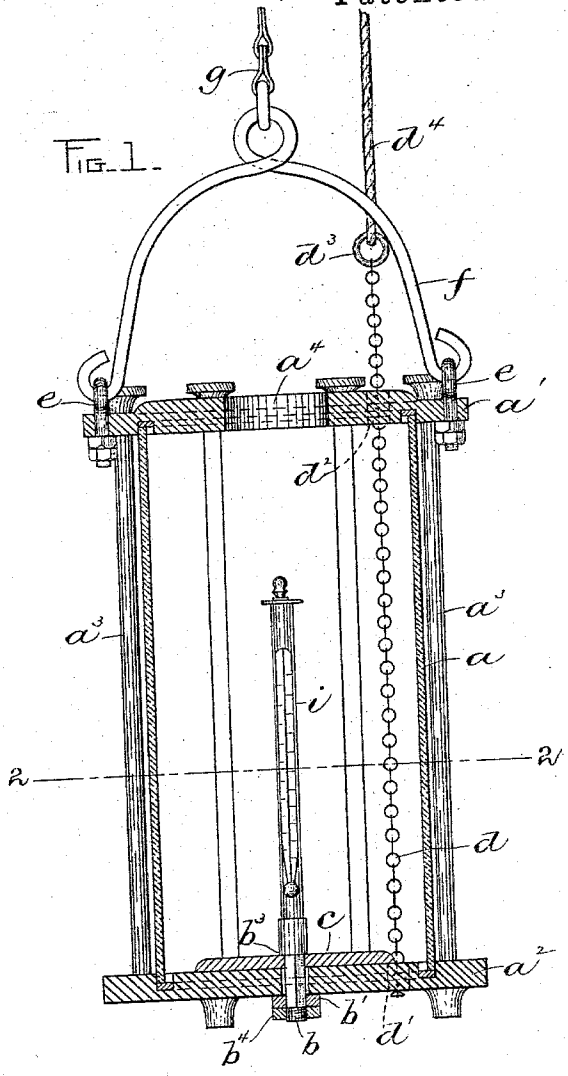
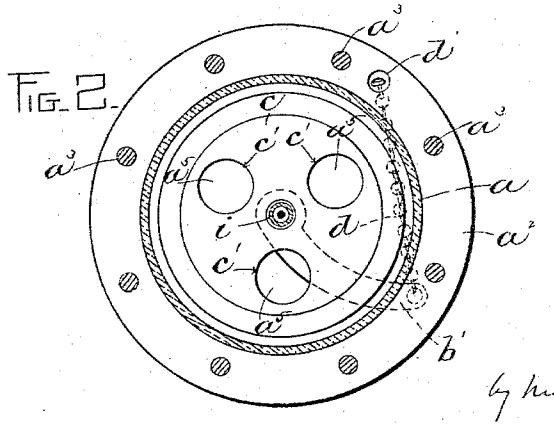


FIG. 2.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JESSE C. CONDÉ, OF BOSTON, MASSACHUSETTS.

LIQUID-TESTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 569,783, dated October 20, 1896.

Application filed May 8, 1896. Serial No. 590,745. (No model.)

To all whom it may concern:

Be it known that I, JESSE C. CONDÉ, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Liquid-Testing Devices, of which the following is a specification.

This invention relates to apparatus for withdrawing samples of liquids from receptacles in which they are stored; and it has for its object to provide a simple and effective device adapted to be lowered into a reservoir to receive a sample of the liquid therein while entering the same, to be closed at its lower end after it is submerged, and to be withdrawn, bringing with it a sample of the liquid.

The invention consists in the several improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of my improved liquid-testing apparatus. Fig. 2 represents a section on line 2 2 of Fig. 1.

The same letters of reference indicate the same parts in both figures.

In carrying out my invention I provide a portable liquid-receptacle comprising a body a, which is here shown as a cylinder and is preferably made of glass, and heads a' a^2, which are preferably circular disks of metal grooved to receive the ends of the cylindrical body a, said heads being connected and held against the ends of the body a by longitudinal rods a^3. The upper head a' is provided with a permanently open air-passage a^4, which permits air to escape from the receptacle when it is being filled and to enter when the liquid contents are being discharged. In the bottom head a^2 are a series of ports a^5, which permit liquid to enter the receptacle through the bottom head when the receptacle is lowered into a body of liquid.

b represents a stud which is fitted to turn in a socket formed in the center of the bottom head a^2. To said stud, above the head a^2, is affixed a circular valve c, having a series of ports c', which are arranged to coincide with the ports a^5 when the valve is in one position, said ports a^5 being closed by the valve when the latter is turned to another position. The valve bears closely against the upper surface of the head a^2 and is provided with suitable packing material, which enables it to tightly close the ports a^5 when adjusted for that purpose.

b' represents an arm affixed to the stud b below the head a'. To the outer end of said arm is affixed one end of a flexible cord or chain d, which extends through guides at d' d^2 in the heads a^2 and a'. The head a' is provided with eyes e e, with which are engaged the ends of a bail f, to which is attached a cord or chain g of any desired length. The chain d has a ring d^3 at its upper end, with which is connected a cord d^4, which may be of the same length as the chain g.

The lower guide d' is arranged to hold a portion of the chain d in a horizontal position, so that a pull on the cord d^4 will close the valve, as hereinafter described.

In operating the device the valve c is turned to open the ports a^5, as shown in Fig. 2, and the receptacle is lowered into the liquid-reservoir, the liquid entering the receptacle through the ports a^5 as the receptacle sinks into the liquid, the air at the same time escaping through the air-passage a^4. The operator, while the receptacle is submerged, by pulling on the cord or chain d^4, closes the valve through the arm b' and stud b, thus confining a charge of liquid within the receptacle. The receptacle may now be withdrawn, bringing with it the charge of liquid which it has received. The receptacle may be emptied after its withdrawal by opening the valve.

i represents a thermometer which is attached to an extension of the stud b, which projects from the bottom into the interior of the receptacle, said thermometer affording a means for readily determining the temperature of the liquid. The stud b is therefore utilized both as a means for pivotally securing the valve to the receptacle and for supporting a thermometer therein.

The stud b has a shoulder b^3 above the valve and is detachably secured by a nut b^4 below the head a^2. Hence the thermometer and stud may be readily removed should occasion require.

By reason of the construction of the valve the sample liquor flows easily into the cylinder, because of the relatively large area of opening afforded by the ports a^5, distributed evenly over the bottom of the cylinder. A

small movement of the radial lever and of the valve closes a large total valve-opening, because of the number and arrangement of the ports.

I claim—

1. A liquid-testing device comprising a receptacle having a liquid receiving and discharging port in its bottom, an air-passage in its upper portion, and a bail or handle whereby it may be suspended within a reservoir; a stud passing through the said bottom and fitted to rotate therein; a valve affixed to the stud and adapted to open and close the said port; a laterally-projecting arm affixed to the stud below the bottom of the receptacle; a cord or chain affixed to said arm, and guides on the receptacle arranged to hold a portion of the said cord in position to cause a pull on the cord to close the valve.

2. A liquid-testing device comprising a receptacle having a liquid receiving and discharging port in its bottom and an air-vent in its upper portion, and adapted to be suspended in a reservoir, a stud detachably connected to said bottom and fitted to rotate therein, said stud having an extension projecting above the bottom into the interior of the receptacle, a valve affixed to the stud and adapted to open and close the said port, and a thermometer affixed to the said extension and supported thereby within the receptacle.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of April, A. D. 1896.

JESSE C. CONDÉ.

Witnesses:
A. D. HARRISON,
ROLLIN ABELL.