No. 744,123. PATENTED NOV. 17, 1903.

V. SPIETSCHKA.

LIQUID TESTING DEVICE.

APPLICATION FILED JAN. 17, 1903.

NO MODEL.

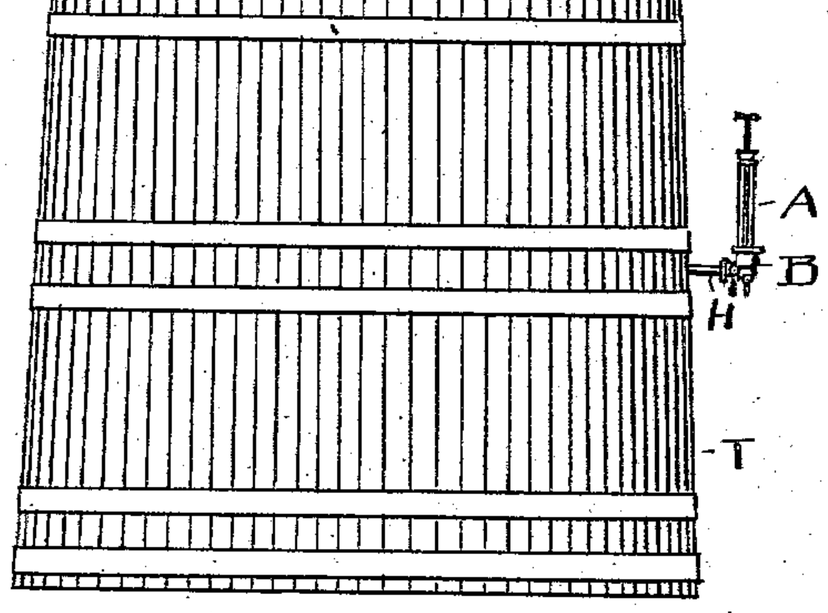


FIG. 1.

FIG. 2.

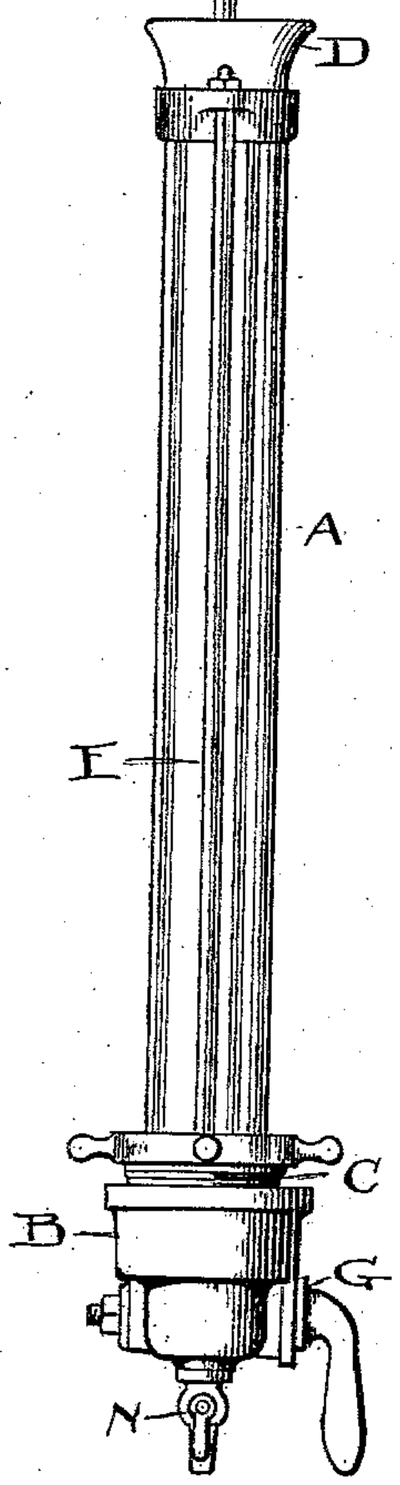
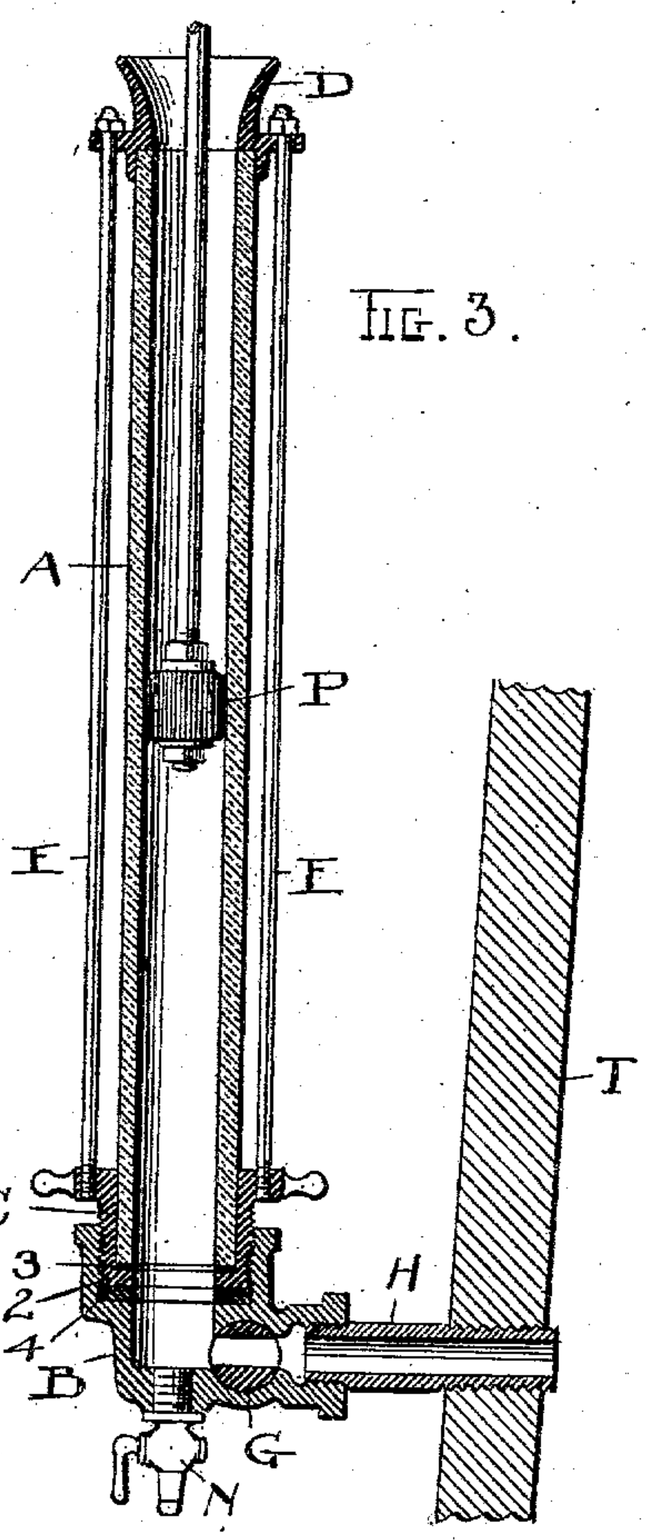


FIG. 3.



Attest
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No. 744,123. Patented November 17, 1903.

UNITED STATES PATENT OFFICE.

VINZENZ SPIETSCHKA, OF CLEVELAND, OHIO.

LIQUID-TESTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 744,123, dated November 17, 1903.

Application filed January 17, 1903. Serial No. 139,474. (No model.)

To all whom it may concern:

Be it known that I, VINZENZ SPIETSCHKA, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Liquid-Testing Devices; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to liquid-testing devices; and the invention consists in a device adapted to be used substantially as shown and described, and particulary pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan elevation of a beer-fermenting tank having my new device connected therewith at about its center. Fig. 2 is a plan elevation of the device itself and considerably enlarged as compared with Fig. 1. Fig. 3 is a longitudinal sectional elevation of the device in attached relation to the beer-tank as in Fig. 1 and shown as partially filled with beer.

As thus shown and described the said device or attachment is designed to be used for ascertaining the state or condition of liquids confined in tanks or receptacles and especially adapted herein for ascertaining the condition of beer in the period or process of fermentation when repeated or varied tests or examinations are required to note the progress of fermentation. Hitherto such tests or examinations have been exceedingly tedious and laborious for the reason that there was no apparatus provided for this purpose but such as required the party conducting the same to climb up the side of each and every tank examined, first to obtain a dip or sample of the contents of the tank from as great a depth as he could reach with a long-handled dipper and then climb down again to subject the same to tests by a sacrometer. Then he had to climb up again and return his sample to the tank, and the same operation had to be repeated when the temperature was to be taken. Now considering that there may be all the way from ten or twenty to several hundred tanks in a single brewery, according to its size, the aggregate labor involved in this very primitive manner of ascertaining conditions obviously was very considerable and in the end expensive; but by the use of my new and improved device all this slow and tedious operation is done away with and means are provided which accomplish the same results in a much more satisfactory and accurate manner and with only a fraction of the time formerly required.

To these ends the invention consists of a transparent tube or pipe A with a bore, say, of an inch and a half across and supported at its lower end in an elbow or equivalent joint B, and a thimble C, threaded into said joint and providing a seat for said tube. A cap D with a preferably flaring mouth is supported on the upper end of the tube A, and rods E connect said cap with thimble C and serve to complete what is substantially a framework for the glass tube and which not only renders said tube available for use, but also affords protection against injury. Thimble C has an inwardly-extending flange 2 at its lower end, and a gasket 3 thereon forms a close seat for the tube, and with a gasket 4, packing thimble C in joint B, no liquid can leak out at these points. Tube A is wide open at both ends, and joint B has a passage open to tube A and provided with a cut-off valve G to control the flow of liquid into tube A from tank T. A short pipe H or equivalent means connects joint B with the tank, and a waste-valve and outlet N are provided at the bottom of union B.

The device as an article of manufacture and use is comprised in the combined parts substantially as shown and is adapted to be carried from tank to tank for making tests, or each tank may be equipped with a device of its own. In any case the tanks are provided with pipe connections H, and these connections are tapped into the tank at what is not only a convenient elevation for conducting tests, but also where middle or average conditions of the contents of the tank are most certainly obtained.

In operation and after having connected up the device with a tank valve G is turned to permit a limited flow of liquid into tube A, as appears in Fig. 3. Having said tube more or less filled in this way several readings may be quickly obtained and which were possible before only by climbing to the top of the tank several times and down again, as already de-

scribed. These readings or tests contemplate the use of a sacrometer and thermometer to be dipped into the liquid in said tube after piston P has been withdrawn; but in addition to this the transparent tube has the advantage of disclosing to the eye the state of the beer as respects its clearness or cloudiness, which alone is a very material advantage in a device of this kind.

When the examinations are finished, the piston P is used to force the liquid or beer back into the tank, so that there is no waste, and whatever liquid remains in the joint below said piston can be let out through valve N. Having conducted an examination this way the device can be detached and carried to the next tank, and so on through the brewery, or, as is more convenient, each tank can be provided with its own complete equipment, and this is preferred generally in breweries.

I might, of course, use a dark or non-transparent tube A; but that would cut off all visible examinations or observations of the beer in the tube itself, and in that case also the minor details of construction here and there might be modified, but without changing the essential character of the invention.

It will be understood that the chief use of piston P is to force the liquid in tube A back into the tank after a test. When this has been done, valve G is again opened, as it was before, to admit liquid to said tube from the tank, and when testing instruments are to be inserted into tube A the piston P must first be withdrawn. When tube A is removed, the thimble C is unscrewed and carried away with the tube. In a very true sense the said tube and its thimble and cap comprise or constitute an article of manufacture and use.

Piston P serves also to agitate the contents of the tank more or less where it is tapped by running the piston up and down a few times, and this gives an average sample of the beer.

What I claim is—

1. A device adapted to be detachably connected with beer-fermenting and other tanks, comprising a tube open at its upper end, a piston adapted to be inserted and removed through said open end, and a valve to control the flow of fluid into and out of said tube beneath said piston, substantially as described.

2. The tube open at its top, a joint and a thimble detachably seated in said joint and serving as a support for the tube, a cap on the tube and fixed connections between the cap and the thimble, whereby the said parts are removable together from the joint, and a piston in said tube and a rod therefor extending out through the cap on said tube, said tube being open to the outer air through said cap, substantially as described.

Witness my hand to the foregoing specification this 27th day of December, 1902.

VINZENZ SPIETSCHKA.

Witnesses:
R. B. MOSER,
R. ZBORNIK.