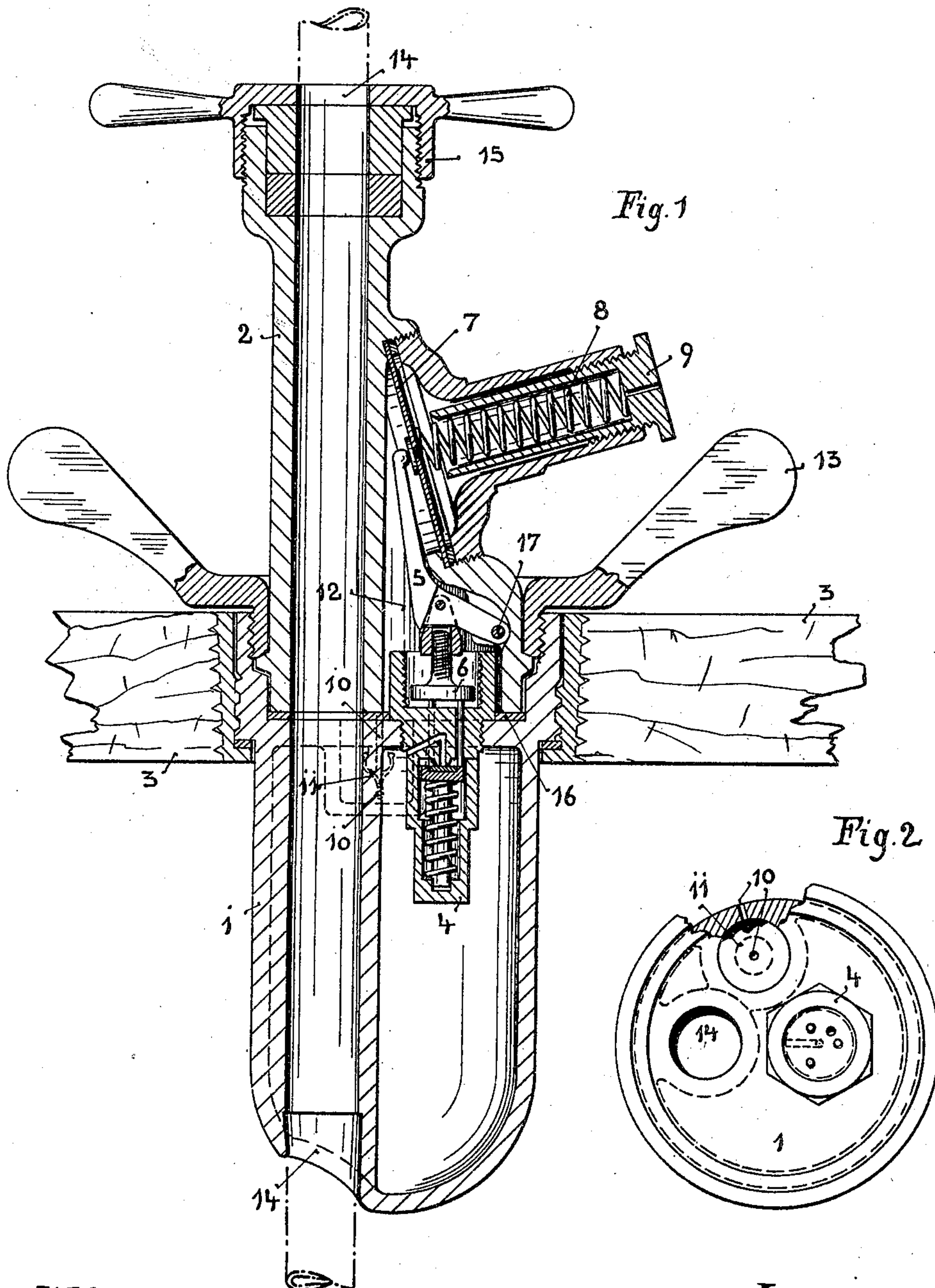


No. 822,608.

PATENTED JUNE 5, 1906.

H. HOTTINGER.
TAPPING DEVICE.

APPLICATION FILED JULY 3, 1905.



Witnesses:

W. Kraus.

F. Hoynes.

Inventor:

Heinrich Hottinger

by *Paulmann & Kuch*
Attorney.

UNITED STATES PATENT OFFICE.

HEINRICH HOTTINGER, OF ZURICH, SWITZERLAND.

TAPPING DEVICE.

No. 822,608.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed July 3, 1905. Serial No. 268,260.

To all whom it may concern:

Be it known that I, HEINRICH HOTTINGER, a citizen of the Swiss Confederation, and a resident of Zurich, Switzerland, have invented new and useful Improvements in Tapping Devices, of which the following is a specification.

This invention relates to a device for tapping liquids from any kind of barrels under continuously-uniform pressure and in a very simple manner.

In the drawings the device is shown in Figure 1 in a vertical section. Fig. 2 is a plan of the cylinder with the gas-regulating parts removed.

The device consists of a cylinder 1 for the reception of the carbonic-acid or other suitable gases and of the regulating apparatus 2, serving for conducting the carbonic acid onto the liquid.

The regulating apparatus 2 is made as a separate piece, which may be tightly connected to the cylinder 1 by means of a screw-threaded connecting-ring.

As shown in the drawings, the cylinder serves as a bung, while the regulating apparatus 2 with the pressure-regulating chamber 12 is separate from the cylinder and serves as a tap. In the top plate of cylinder 1 the valve 4 is provided, which is kept closed by a spring pressing the valve against its seat.

Above the valve 4 an angular lever 5 is pivoted at 17, which on the one hand acts on the valve 4 through a plate 6, linked to the angular lever, and on the other hand it acts on a diaphragm 7, fixed in an extension of the casing of regulating-chamber 12, which latter is formed by the top plate of cylinder 1 in combination with the regulating apparatus 2. A spiral spring 8, the pressure of which can be regulated by means of screw 9, presses against the outer surface of the diaphragm 7. A channel 10, Fig. 2, communicates on the one hand with reducing-chamber 12 and on the other hand with the interior of cask 3 and serves for conducting the carbonic acid or the like onto the liquid in said cask. Said channel 10 is closed by a non-return valve 11. Cylinder 1 is screwed into the bunghole of the cask, and regulating apparatus 2 is connected with the cylinder 1 by means of connecting-ring 13 with stuffing 16.

The pipe 14 for raising the liquid is passed through a channel 14 of parts 1 and 2, which can be closed at its lower end by a cork and which is provided at its upper end with a

stuffing-box 15. The combination of the two principal parts can, however, be modified according to requirement.

The apparatus operates as follows: The cylinder 1, filled with the gas under pressure, (carbonic acid or the like,) is screwed into the bunghole of the barrel 13. Then the tap 2 is placed in the top plate of the cylinder and secured in its position by the connecting-ring 13. The diaphragm 7 now opens the valve 4 by means of the angular lever 5 and plate 6, so that the gas can flow from cylinder 1 through the valve 4 into regulating-chamber 12 and through channel 10 into the barrel onto the liquid, which is thus driven out through the raising-pipe. The escape of liquid through channel 10 is prevented by the non-return valve 11. When the pressure in the regulating-chamber 12 has reached a certain degree, the diaphragm compresses spring 8 and the angular lever 5 is lifted off the valve 4, which is now closed by its spiral spring, so that the supply of gas under pressure to regulating-chamber 12 is stopped, until in consequence of the filling off of the liquid the pressure in the barrel, and consequently in the regulating-chamber, is so much reduced that the diaphragm returns to its original position and again opens the valve 4. Thus the liquid in the barrel is continuously kept under uniform pressure until the last drop of the same has been drawn off from the barrel.

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

A tapping device comprising, in combination, a cylinder containing carbonic-acid or like gas under pressure adapted to be screwed into the bunghole of the barrel, a valve in the top plate of the cylinder, a pressure-regulating device on the top plate of said cylinder forming in combination with the same a pressure-regulating chamber, a ring screwed into the upper end of the cylinder connecting the two parts, a stuffing between the regulating device and the cylinder, an angular lever pivoted at one end inside the regulating-chamber, a plate linked to the lever arranged to press on the valve, a diaphragm fixed in the upper end of the regulating-chamber arranged to press on the free end of the angular lever, a spiral spring arranged to press against the outer surface of the diaphragm, a regulating-screw for said spiral spring, said cylinder being formed to provide a channel

communicating, on the one hand, with the
regulating-chamber and, on the other hand,
with the interior of the barrel, and a non-re-
turn valve in said channel, substantially as
5 described and shown and for the purpose set
forth.

In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

HEINRICH HOTTINGER.

Witnesses:

A. LIEBERKNECHT,
S. ROTH.