E. FITCH.

Tapping and Venting Barrels, &c.

No. 220,595. Patented Oct. 14, 1879.

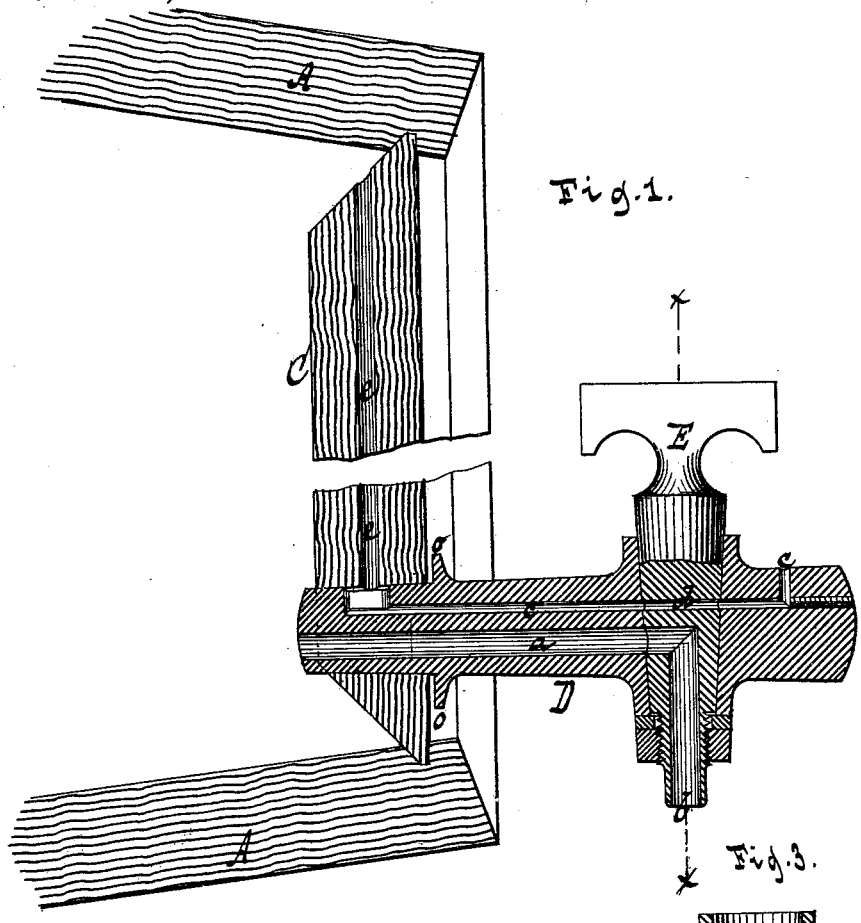



Fig. 1.

Fig. 3.

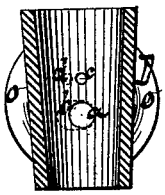
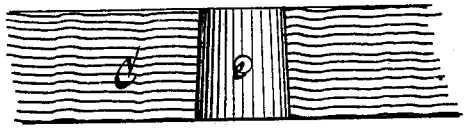


Fig. 4.

Fig. 2.



Witnesses
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# UNITED STATES PATENT OFFICE.

EDWARD FITCH, OF NEW YORK, N. Y.

## IMPROVEMENT IN TAPPING AND VENTING BARRELS, &c.

Specification forming part of Letters Patent No. **220,595**, dated October 14, 1879; application filed September 18, 1879.

*To all whom it may concern:*

Be it known that I, EDWARD FITCH, of the city, county, and State of New York, have invented a new and useful Improvement in the Method or Process and Means of Tapping and Venting Barrels, Casks, and other vessels containing liquids, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 shows a vertical central section of my improvement as applied to a barrel. Fig. 2 is a section of a barrel-head, showing the air-duct. Fig. 3 is a section of the faucet in the plane *x x*, the spigot being removed, showing the relative positions of the canal and air-duct of the shank of the faucet to the canal and secondary duct in the spigot when the spigot is so turned that the canal for the liquid is open while the air-duct is closed.

Similar letters indicate corresponding parts.

This invention relates to an improved method or process of tapping and venting barrels, casks, or other vessels containing liquids, and consists—

First. Of a faucet provided with an air-duct passing partly through the same lengthwise, preferably near the upper side thereof, and terminating near the inner end of the faucet in an opening upon the side of the faucet.

Second. This air-duct is controlled by the spigot of the faucet, and is opened or shut by turning the spigot. The spigot is provided with two openings, one above the other—the upper one for the admission of air to the air-duct, and the lower one for the emission of the liquid contents of the barrel. The lower opening is made larger than the upper one, and in such position in the spigot that by partially turning the spigot the liquid will flow while the air-duct remains closed, and by further turning the spigot the air-duct will also be opened. The spigot can thus be made to open both passages at the same time, or to close both passages at the same time, or to open the lower passage for the flow of the liquid while the upper or air passage or duct remains closed.

Third. The head of the barrel, cask, or other vessel to be tapped and vented is provided with an air duct or passage passing in a straight line through the substance of the head at right angles with the axis of the barrel, and opening at the lower end of the said air duct or passage in the upper side of the orifice in the said head through which the liquid is to be drawn, and at the other end thereof into the barrel at or near the junction of the head with the staves of the barrel, thus opening a duct or passage from the orifice in said head to the air-chamber in the upper side of the barrel when the same is placed upon its side in position for drawing the liquid.

When the faucet is driven into position for use the air-duct in the faucet will correspond and connect with the air-duct in the head of the barrel, and when the spigot is fully turned on a continuous air passage or duct will be formed, opening into the upper portion or air-chamber of the barrel, thus permitting the air freely to flow into the barrel to supply the place of the liquid drawn out.

In the drawings, the letter A designates a barrel, the head C of which is provided with a tap-hole for the reception of the shank of a faucet, D. When the spigot E of the faucet is open the liquid flows through the canal *a* of the faucet, and out at the mouth *b* of the spigot E. This spigot E is also provided with a secondary canal or duct, *d*, which, in the position shown in the drawings, corresponds with the air-duct *c* in the faucet D. This air-duct *c* opens into an air duct or canal, *e*, in the head C of the barrel, and as the liquid in the barrel escapes its place is supplied by the air flowing in through the ducts *c e*. By this arrangement the use of bung-holes can be entirely dispensed with, if desired.

The air-duct *c* may be widened at its inner end, so that if the faucet should be driven in more or less the passage for the air will nevertheless be free. If desired, said duct *c* may be made to open into a groove running around the periphery of the shank of the faucet D.

The air-duct *e* may be widened at the place where it enters the duct *c*. This air-duct *e* may be charred or pitched or lined with metallic or other substances, as desired.

When the spigot E is closed, so that no more liquid escapes, the passage for the air is cut off, since the duct *e* is also closed thereby.

If beer or other liquid charged with or con-

taining gas is in the barrel, and the barrel remains closed for some time, considerable pressure will be produced by the gases which are evolved from the liquid. On suddenly opening the faucet the liquid would by the pressure of the gas be forced through the air-duct. To prevent this the spigot is only partially turned, and the liquid thus permitted to flow, while the air-duct remains closed. (See Figs. 3 and 4.) When the accumulated gases have caused some of the liquid to flow out at the mouth *b*, and the pressure has thereby become diminished, the spigot E can be fully opened, and the air will flow through the air-duct.

I am aware that faucets have been constructed which were provided with air-ducts and with a tube leading from such duct into the interior of the barrel, as in patent of Putnam, No. 108,824, dated November 1, 1870, or that of Brederlow, No. 175,915, dated April 11, 1876. Such construction is foreign to my invention, and is not claimed by me.

The faucet is provided with a shoulder or flange, *o*, so adjusted as to serve as a gage, so that when the faucet is driven into the head up to the shoulder or flange the air-duct of the faucet will communicate with the air-duct in the head of the barrel.

It is also to be remarked that the spigot may be graduated, so as to indicate when the canal for the liquid alone is open, as also to show when both the canal for the liquid and the air-duct are open at the same time.

What I claim as new, and desire to secure by Letters Patent, is—

1. A faucet provided with an air-duct, in combination with a barrel, the head of which is also provided with an air-duct, the whole being so arranged that when the faucet is driven into place for use the air-duct of the faucet corresponds and connects with the air-duct in the head of the barrel, substantially in the manner and as and for the purpose shown and described.

2. A faucet provided with an air-duct extending through a portion of its length, the spigot E of which is also provided with a corresponding secondary duct, in combination with a barrel, cask, or other vessel the head of which is also provided with an air-duct opening into the air-chamber of the barrel and into the air-duct in the faucet, all arranged and adapted to operate substantially as set forth.

3. A barrel-head, C, provided with an air-duct opening into the tap-hole in said head C, in combination with a faucet provided with a corresponding air-duct, said faucet being further provided with a spigot, E, having an air-duct, all constructed and adapted to operate substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 16th day of September, 1879.

EDWARD FITCH. [L. S.]

Witnesses:
J. VAN SANTVOORD,
J. HERMANN WAHLERS.