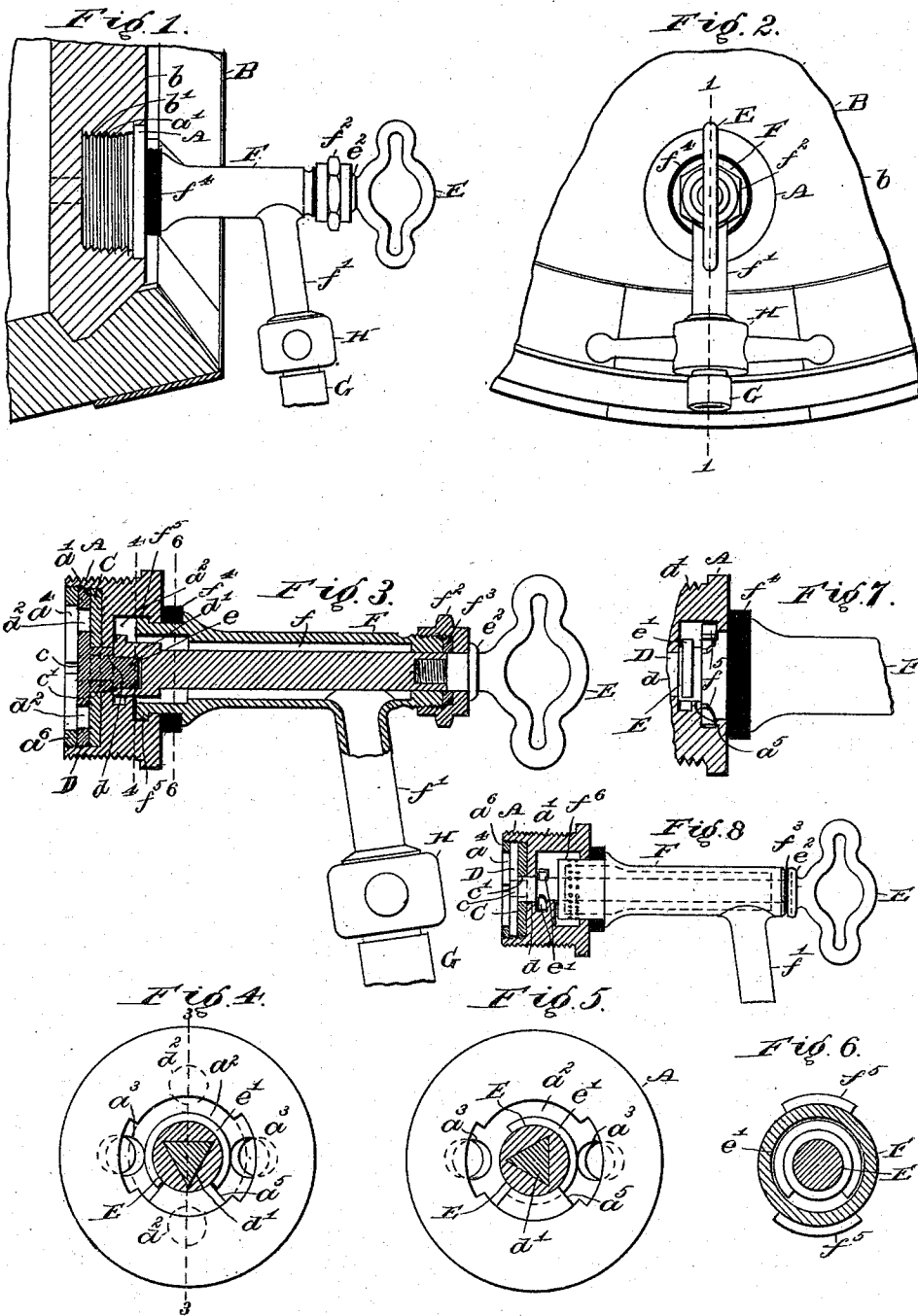


(No Model.)

A. HALLOWELL.
COMBINED TAP PLUG AND FAUCET.

No. 542,081.

Patented July 2, 1895.



WITNESSES.

Hirshy Hyde,
Liban E. Clark

INVENTOR

Albert Hollowell,

By *Albert M. Moore,*
His ATTORNEY.

UNITED STATES PATENT OFFICE.

ALBERT HALLOWELL, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO THE UNIVERSAL BARREL TAP COMPANY, OF CHARLESTON, WEST VIRGINIA.

COMBINED TAP-PLUG AND FAUCET.

SPECIFICATION forming part of Letters Patent No. 542,081, dated July 2, 1895.

Application filed October 13, 1894. Serial No. 525,761. (No model.)

To all whom it may concern:

Be it known that I, ALBERT HALLOWELL, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in a Combined Tap-Plug and Faucet, of which the following is a specification.

My invention relates to combined tap-plugs and faucets; and it consists in the devices and combinations hereinafter described and claimed.

In a previous application, Serial No. 552,233, filed September 6, 1894, and now pending, I have shown and described a tap-plug adapted to be permanently secured in the tap-hole of a cask and provided with a rotary valve, which may be opened by a key or wrench applied to a pinion which engages said valve, said tap also receiving a delivery-tube. In that device the delivery-tube and the key were not applied to the plug concentrically with each other and were not inseparably connected with each other; but in the improvement herein described I am enabled to make the plug considerably smaller, thereby effecting a saving of material and to a less extent weakening the head of the cask by making the same central orifice serve as the way or liquid passage and the keyhole and by applying the key directly to the valve.

In the device herein described the key is inseparably secured to the delivery-tube, while free to turn therein. Means are provided for locking said tube in operative position before the valve is opened, and the construction of the parts is such that the delivery-tube cannot be removed from the plug until the valve is closed, this being to prevent waste of the contents of the barrel and to insure the closing of the valve when the cask is emptied and before the cask is returned to the brewery. The delivery-tube and plug are also preferably provided with other independent means of engaging each other to retain said tube in said plug, so that said tube is doubly locked in said plug when said valve is open.

In the accompanying drawings, Figure 1 is a vertical horizontal section on the line 1 1 in Fig. 2 of a portion of a cask, showing my

improved tap-plug and faucet in position in the head of said cask; Fig. 2, a front elevation of the parts shown in Fig. 1; Fig. 3, a central vertical longitudinal section on the line 3 3 in Fig. 4 of said tap-plug and faucet, showing a part of the delivery-nozzle, the union-coupling, and a part of the service-pipe in side elevation; Figs. 4 and 5, front elevations of the plug, the stem of the valve and the key being in vertical cross-section on the line 4 4 in Fig. 3, the key in Fig. 4 being in a position to allow the delivery-tube to be removed from the plug and in Fig. 5 in a position to prevent such a removal; Fig. 6, a vertical transverse section on the line 6 6 in Fig. 3 of the delivery-tube and key, omitting the packing-washer; Fig. 7, a central vertical longitudinal section of a part of the plug and a side elevation of a part of the delivery-tube; Fig. 8, a representation of a modified form of my improvement, showing the plug in a central vertical longitudinal section and the delivery-tube in side elevation.

The plug A is a cylinder having an external screw-thread a' , by which it is secured in a cavity b' in the head of a cask B at the place where the tap-hole is usually found. The liquid passage or way a^2 at its outer end is preferably concentric with the plug and has branches at $a^3 a^3$, Figs. 4 and 5, which lead into a circular recess a^4 in the back of said plug and concentric with said plug. In the recess a^4 is arranged a packing C, of leather or other sheet material, having holes c , in line with the branches a^3 , and a central hole c' to admit the stem or arbor d of a valve D. The valve D is a circular plate having a central stem or arbor d , which reaches forward through the packing-washer C and into the central way a^2 , the free or front end portion d' of the stem being many-sided or triangular in cross-section, to be engaged by a wrench or key E, having a corresponding socket e in the end thereof, and to be turned to bring the holes d^2 in said valve into or out of line with the holes c and branches a^3 . The valve is retained in the recess a^4 by the ring a^6 , screwed or otherwise secured therein.

The key E is provided with an external arc-shaped projection e' and the way a^2 is provided with an internal arc-shaped rib a^5 , which

projection e' and rib a^5 have, preferably, a combined angular measurement of nearly or quite three hundred and sixty degrees and are so arranged that the key can only become engaged with or disengaged from the stem d' when the valve is closed.

The key E is arranged in the delivery-tube F concentrically therewith and is enough smaller in diameter than the bore of said tube to allow the liquid to pass from the way a^2 in the space f between said key and tube to the nozzle f' of said delivery-tube, through which nozzle the contents of the cask are discharged, as from a faucet, into any suitable receptacle or into a service-pipe G, which may be connected to said nozzle by a half union-coupling H, of the usual construction, and to a beer-pump in a manner readily understood.

The delivery-tube F enters and fits the passage or way a^2 and is held therein by a collar e^2 on the key E, pressing against the outer end of a stuffing-box f^2 , which contains a packing-washer f^3 , compressed between the outer end of the tube F and the inner face of said box f^2 to prevent any leakage between said key and said tube. The projection on the key is preferably a curved cam or wedge—that is, the front surface of said projection is inclined to draw the tube into the passage or way a^2 forcibly as the key is turned in opening the valve and to enable the shoulder f^3 , with which said delivery-tube is provided, to compress the packing-washer f^4 against the plug A.

The delivery-tube may for greater safety be provided with oppositely-projecting cams f^5 , Figs. 3, 6, and 7, which engage corresponding arc-shaped ribs a^6 , Figs. 3, 4, 5, and 7, in the outer end of the way a^2 , whereby said tube is locked in the plug independently of the key.

In Fig. 8 the delivery-tube is shown provided with a strainer f^6 , of well known form, and the stuffing-box is omitted, its office being performed by a packing-washer f^3 , arranged between the front or outer end of said tube and the collar e^2 . In other respects the parts shown in Fig. 8 are in form and func-

tion like the parts indicated by the same letters of reference in the other figures.

Obviously there may be two opposite projections e' on the key and an equal number of opposing ribs a^5 on the inside of the way, provided that the angular measurement of all said ribs and projections combined does not exceed three hundred and sixty degrees.

I claim as my invention—

1. The combination of the plug, having a way and having ribs in said way, a delivery-tube, adapted to enter said way and having cams to engage said ribs, to retain said tube in said way, a valve, arranged in said plug, and a key, arranged in said tube and engaging said valve and having a collar, adapted to press upon the outer end of said tube, said key having also a projection or cam, adapted to engage another rib, with which said plug is provided in said way, to lock said tube in said way, as and for the purpose specified.

2. The combination of the plug, having a way provided with a rib, a valve, arranged in said plug, a delivery-tube, adapted to be inserted in said way, and a key, turning in said tube and secured therein and adapted to engage said valve and having a projection to engage said rib and to prevent the removal of said tube from said way when said valve is open, as and for the purpose specified.

3. In a faucet, the combination of a plug, a valve therein, a delivery-tube detachably connected with the plug, and a valve-actuator or key having means of engagement with the plug to prevent withdrawal of the actuator except when the valve is closed, said actuator also having means of engagement with the delivery-tube preventing independent movement of the latter to detach it from the plug, substantially as described.

In witness whereof I have signed this specification, in the presence of two attesting witnesses, this 10th day of October, A. D. 1894.

ALBERT HALLOWELL.

Witnesses:

ALBERT M. MOORE,
LILIAN E. OWEN.