

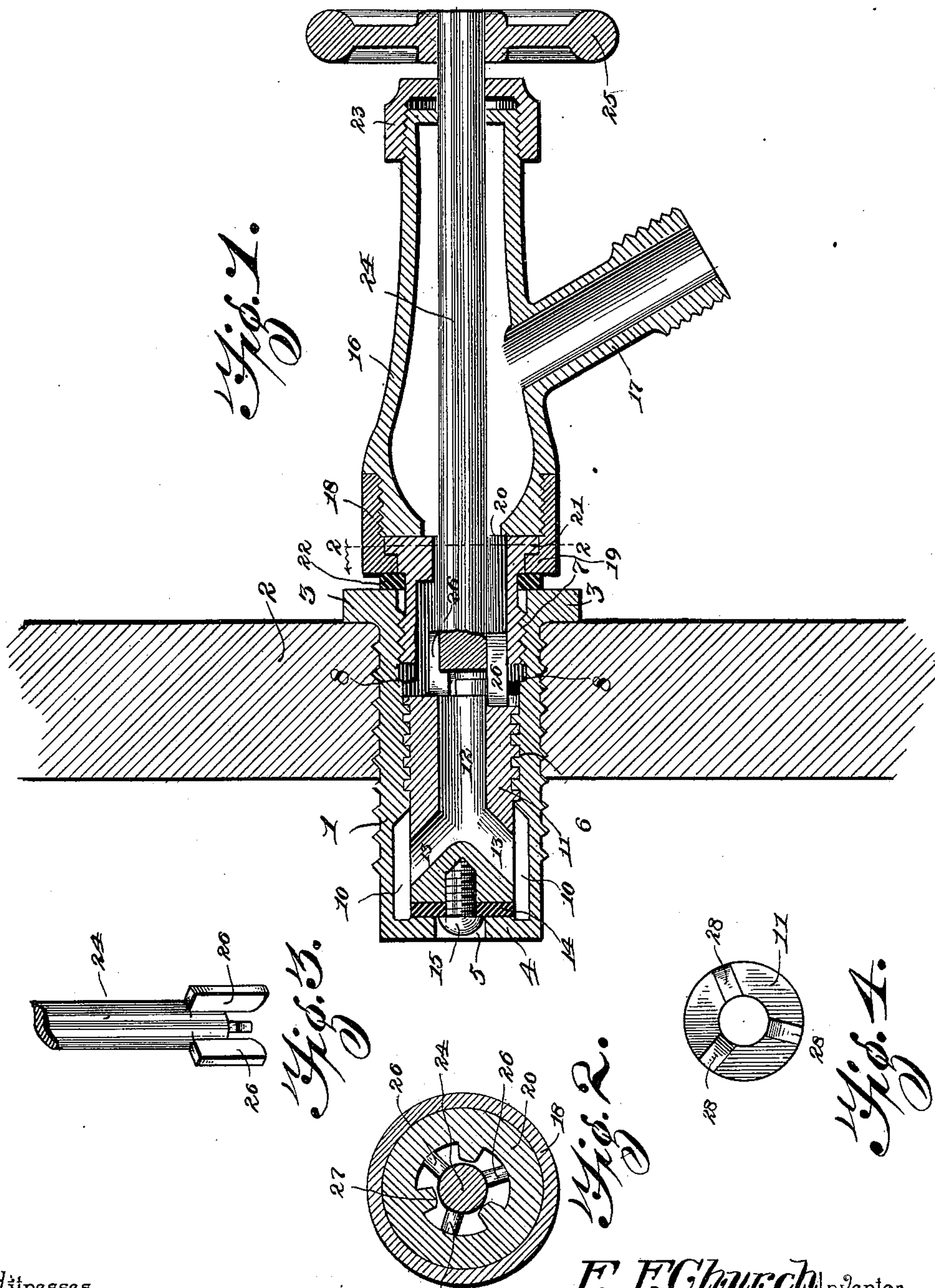
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Patented Oct. 9, 1900.

F. F. CHURCH.
BARREL TAP AND VALVE.

(Application filed May 26, 1900.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK F. CHURCH, OF MEDFORD, MASSACHUSETTS.

BARREL TAP AND VALVE.

SPECIFICATION forming part of Letters Patent No. 659,288, dated October 9, 1900.

Application filed May 26, 1900. Serial No. 18,111. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK F. CHURCH, a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented a new and useful Barrel Tap and Valve, of which the following is a specification.

This invention relates to barrel taps and valves, and has for its object to provide an improved device of this character to facilitate the application thereof to a barrel and to permit of the valve-operating parts being removed for repairs without removing the valve. It is furthermore designed to arrange the valve stem or key for disengagement from the valve, so that it may be employed to apply and remove the connection between the bung-bushing and the nozzle-chamber through which the contents of the barrel are discharged.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a central longitudinal sectional view of a barrel-tap constructed in accordance with the present invention. Fig. 2 is a transverse sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the inner end of the valve stem or key. Fig. 4 is a plan view of the inner end of the valve.

Corresponding parts are designated by like characters of reference in all of the figures of the drawings.

Referring to the drawings, 1 designates an externally-screw-threaded bushing to be fitted to the bung of a barrel 2 in the ordinary manner. The outer end of the bushing is provided with an outer annular flange 3 to fit against the outer side of the barrel and limit the inward movement of the bushing, the inner end of the latter being closed by means of a plate or head 4, having a central opening 5 to form a valve-port for the escape of

the liquid within the barrel. The interior of the bushing is provided with an intermediate screw-threaded portion 6 and an outer screw-threaded portion 7, and between these two portions there is provided a smooth portion 8. Within the inner end of the bushing the bore thereof is enlarged or provided with a plurality of recesses 10. Fitting the intermediate screw-threaded portion of the bushing is the valve-plug 11, which is provided with a longitudinal bore 12, opening outwardly through the inner end of the plug, and branch slots or openings 13, communicating with the inner end of the longitudinal bore and diverging outwardly through opposite sides of the plug, so as to communicate with the enlarged portion of the bore of the bushing or the recesses 10. The outer end of the plug is provided with a packing ring or disk 14 to fit against the valve-seat formed by the plate 4 and held in place by means of a suitable removable fastening 15, the head of which is received within the valve opening or port 5 in the closed position of the valve.

Located upon the outer side of the barrel is the nozzle-chamber 16, which is provided with a lateral branch or nipple 17 for the discharge of the liquid or for connection with a pipe to convey the liquid to a distant point. The inner end of the nozzle is reduced and screw-threaded for the reception of the collar or ring 18, which is provided at its outer end with an inner annular flange or shoulder 19. Embraced by this ring or collar is a tubular connection 20, which has its inner end portion externally screw-threaded, so as to fit the outer internally-threaded portion of the bushing, and the outer end of the coupling is provided with an outwardly-directed annular flange 21 to fit loosely between the shoulder on the ring 18 and the adjacent end of the nozzle, so as to form a swiveled connection between the nozzle and the coupling. Interposed between the ring 18 and the outer end of the bushing is a suitable washer or packing-ring 22. The outer end of the nozzle is provided with a removable cap or packing-box 23, which is provided with a central opening for the reception of the valve stem or key 24, having an operating wheel or handle 25 located beyond the outer end of the nozzle. The inner end of the stem projects into the

bushing and is provided with a plurality of radial lugs or projections 26, which also extend beyond the inner extremity of the stem. As best indicated in Fig. 2 of the drawings, it will be seen that the coupling 20 is provided with a plurality of inwardly-directed lugs or projections 27, with which the projections of the stem are designed to engage, so that by turning the stem the lugs will be interlocked to turn the coupling upon its swiveled connection with the nozzle, and thereby screw the coupling into the outer end of the bushing without turning the nozzle and without the employment of a wrench or other implement. After the nozzle has thus been connected to the bushing the stem is slid inwardly until the projecting ends of the lugs 26 enter corresponding notches or recesses 28 in the inner end of the valve-plug, and then by turning the stem by means of the handle 25 the plug may be drawn away from the valve-seat 4, so as to open the valve-port and permit the liquid within the barrel to pass outwardly through the bore of the valve-plug and the branch or nipple of the nozzle.

From the foregoing description it will be apparent that the valve-stem has both a longitudinal and a rotary movement, so that it may be employed to seat and unseat the valve-plug and also to turn the coupling-ring for connecting and disconnecting the nozzle from the bushing, whereby the former may be removed without also removing the valve.

What is claimed is—

1. The combination with a valve-casing, having a valve-plug, of a nozzle, a removable coupling between the casing and the nozzle, and a valve-stem, having independent detachable operative connections with the valve-plug and the coupling, respectively, whereby the latter may be removed independently of the valve-plug.

2. The combination with a valve-casing, having a valve-plug, of a nozzle, a detachable screw-threaded coupling between the casing and the nozzle, and a rotary valve-stem having independent operative connections between the valve-plug and the coupling, whereby the latter may be removed independently of the valve-plug.

3. The combination with a valve-casing, which is open at one end, and provided with a valve-port at the opposite end, an externally-screw-threaded valve-plug contained within the casing and controlling the valve-port, a nozzle at the open end of the casing, a screw-threaded coupling between the nozzle and the open end of the casing, and a longitudinally and rotary movable valve-stem, having independent operative connections with the valve-plug and the coupling, whereby the latter may be detached independently of the valve.

4. The combination with a valve-casing, having a valve-plug, of a nozzle, a rotary detachable coupling between the nozzle and the casing, and a rotary and longitudinally mov-

able valve-stem having independent detachable operative connections with the valve-plug and the coupling respectively.

5. The combination with a valve-casing, having a valve-plug, of a nozzle, a detachable coupling, having a swiveled connection with one of the members, and a screw-threaded connection with the other, and a valve-stem, having a detachable operative connection with the valve-plug and the coupling respectively.

6. The combination with a valve-casing, having a plug-valve, of a nozzle, a removable ring or collar at the inner end of the nozzle and provided with an inner annular flange, a coupling, having an outer annular flange loosely held between the flange of the collar and the adjacent end of the nozzle, and also provided with a screw-threaded connection with the valve-casing, and a valve-stem, having a detachable operative connection with the valve-plug and the coupling respectively.

7. The combination with a valve-casing, having a plug-valve, which is provided in its inner end with recesses or notches, of a nozzle, a detachable coupling, having a swiveled connection with the nozzle and a screw-threaded connection with the valve-casing, and provided with inwardly-projecting lugs, and a longitudinally and rotary movable valve-stem, having its inner end provided with lugs or projections for separate engagement with the recesses of the valve-plug and with the lugs of the coupling.

8. A barrel tap and valve, comprising a bushing, having its inner end provided with a valve-port, an externally-screw-threaded valve-plug, having a longitudinal bore and branch openings communicating therewith, a nozzle, a removable collar or ring provided at the inner end of the nozzle, and having an inwardly-directed annular flange, a tubular coupling, having an outer annular flange loosely held between the adjacent end of the nozzle and the inner flange of the ring, the inner end of the coupling being externally screw-threaded to fit a correspondingly internally-screw-threaded portion of the bushing, and a rotary and longitudinally movable valve-stem projecting longitudinally at opposite ends of the nozzle, and having its inner end provided with lugs or projections for detachable engagement with corresponding recesses formed in the adjacent end of the valve-plug, and with lugs upon the interior of the coupling.

9. In a valve, a casing, a valve therein, a nozzle, a detachable coupling connecting the nozzle to the casing, and common means for controlling the valve and the coupling.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FREDERICK F. CHURCH.

Witnesses:

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