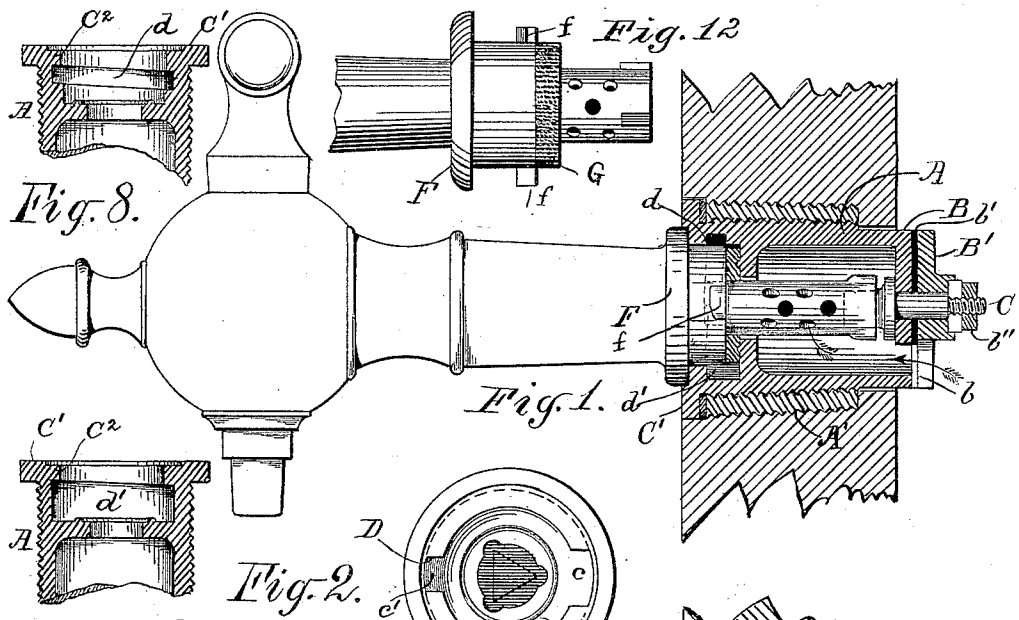
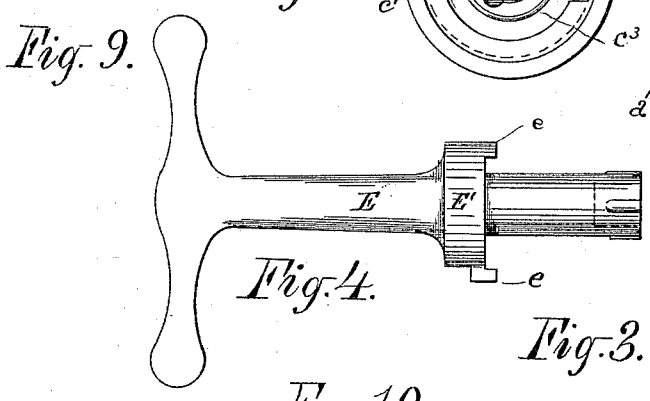
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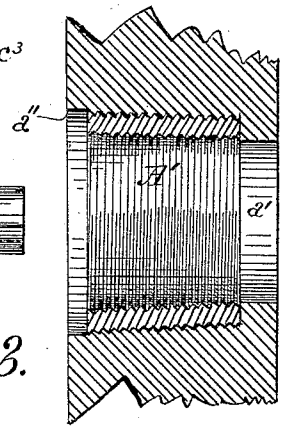
M. ANTHONY.

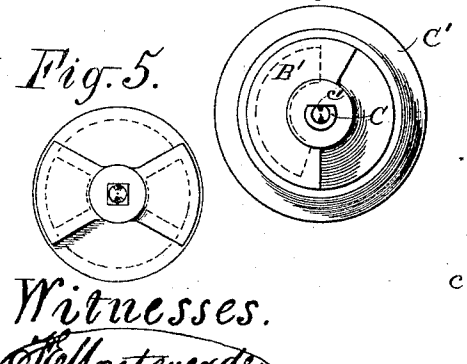
FAUCET FOR BARRELS.

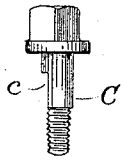
No. 449,513. Patented Mar. 31, 1891.











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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARK ANTHONY, OF BERKELEY, ASSIGNOR TO THE GOLDEN GATE FAUCET COMPANY, OF SAN FRANCISCO, CALIFORNIA.

FAUCET FOR BARRELS.

SPECIFICATION forming part of Letters Patent No. 449,513, dated March 31, 1891.

Application filed March 29, 1890. Serial No. 345,846. (No model.)

To all whom it may concern:

Be it known that I, MARK ANTHONY, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented certain new and useful Improvements in Faucets for Barrels; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention has relation to certain new and useful improvements in bushings for barrels and means whereby the same may be readily secured therein; and it consists of the arrangement of parts and details of construction, as will be hereinafter more fully shown in the drawings, and described in the specification.

My invention relates more particularly to certain improvements upon the bushing fully set forth and described in the reissue application filed by me in the United States Patent Office on the 19th day of July, 1889; and its object is to provide a bushing so constructed that the locking-key thereof cannot be withdrawn until the valve has been entirely closed or opened, or to prevent of the improper insertion of the key or faucet within the bushing, and, further, to provide against the leakage of the rotating valve.

Parts not herein specifically described, but referred to, are fully set forth in the beforementioned application, and reference must be had thereto.

Referring to the drawings forming a part of this application, in which similar letters of reference are used to denote corresponding parts throughout the entire specification and several views of the drawings, Figure 1 is a view showing my improved bushing in section applied to the bung of a barrel, with the faucet connected therewith; Fig. 2, a top plan view of the bushing; Fig. 3, a sectional view of the thimble as applied to a barrel; Fig. 4, a detail view of the operating-key for locking and unlocking the valve secured to the inner end of the bushing; Fig. 5, a detail view showing a wing-valve; Fig. 6, a modified view of the valve; Fig. 7, a detail view showing the outer end of the valve stem or spindle; Fig. 8, a cross-sectional view of the bushing viewed in the direction of the arrows, so as to more fully show the semicircular groove formed therein; Fig. 9, a similar view looking in the opposite direction to that of Fig. 8; Fig. 10, a bottom plan view of the faucet; Fig. 11, a detail view of the valve shown in my former application; and Fig. 12 is a broken elevation of the faucet, showing the diametrically-opposite lugs thereof, as well as the rubber washer.

The letter A represents the bushing, which is adapted to be removably secured within the barrel by means of the thimble A′, located therein and designed to extend partially therethrough, so as to leave the wooden surface a' flush with the inner surface of the thimble, while at the top thereof is left the rear wall a^2. Said thimble is provided with the inner and outer screw-threads, so as to permit of the same being secured within the barrel, while the bushing has the outer threads corresponding with the inner threads of the thimble. By the employment of this thimble I am enabled to readily secure or withdraw the bushing. By the manner of securing the bushing within the barrel now in use—that is, by bringing the threads of the bushing in direct contact with the wood—it is nearly impossible to remove the same when desired, owing to the swelling of the wood around the threads, thus frequently necessitating the breakage of the bushing in the attempt to release the same from the barrel. The base or lower end of the bushing is adapted to form a seat B for the valve, and has the opening *b* formed therein, which is controlled by means of the rotating gate or valve B′, mounted upon the spindle C, which passes through a bearing formed in the valve-seat B of the bushing. The rotating valve is provided with openings corresponding with such as may be formed in the valve-seat, and by the rotation thereof, through the medium of the faucet or operating-key, is adapted to open or close.

By preference I use the form of valve illustrated in Fig. 10, which is fully set forth in my former application. The inner end of the valve stem or spindle C is made triangular

and provided with a collar which bears against the inner face of the head or valve-seat B. The valve B′ is provided with a bearing-face of india-rubber b', and is tightly pressed against the outer face of the valve-seat by means of the nut b^2 screwed upon the outer end of the spindle.

When the valve illustrated in Fig. 10 is used, it becomes necessary, in order to insure a perfectly-tight fit of the valve upon the valve-seat, that the lower or outer portion of the spindle be of peculiar construction. Instead of constructing the same with four sides, or rectangular, I make this portion of the spindle with only one flat side, as shown at c, and form the opening in the valve with the flat side c' in order to correspond therewith. The necessity of this arises from the fact that if the flat portion be placed in front of the spindle considerable play takes place when the valve is tightened thereon at the sides, and by reason of slight differences in the construction of the several parts the outer face of the valve does not rest evenly upon the valve-seat, and owing to the distance from the center it becomes impossible to overcome this defect. However, by throwing the flattened portion to one side of the spindle I gain play at the front thereof, and by tightening the nut upon the spindle I am enabled to throw the outer end of the valve tightly upon the valve-seat. The flattened face of the valve and opposite rounded face fitting closely against the corresponding face of the spindle allows for the forward give of the valve. By thus constructing the spindle I save the expense of milling four sides and gain better results—that is, a perfectly-tight connection between the valve-seat and front or valve is formed.

The upper end of the bushing is provided with the annular flange C′, which is adapted to rest upon the top of the thimble and against the surrounding wall a^2 of the bung. In order to protect the bushing from injury resulting thereto by rough handling—as, for instance, the edge of one barrel coming in contact with the opening of the bushing—I countersink the top thereof for a portion of its width, so as to form the inner annular flange C^2. Without the formation of this countersunk portion or depression it will be apparent that should the edge or rim of one barrel come forcibly in contact with the inwardly-extending portion of the flange it would have a tendency to bend the same inward, thus contracting the width of the grooves behind the same and interfering with the free working of the device. By simply countersinking or depressing this inwardly-extending portion of the flange, however, the above-stated difficulty is avoided, inasmuch as the contacting edge of the barrel must necessarily strike against the annular raised portion of the flange, and thereby be prevented from entering the depressed or countersunk surface, which forms the outer bordering surface of the annular grooves hereinafter referred to. Within this flange I form the openings $c\,c'$, one considerably wider than the other, for the purpose hereinafter set forth. Within the inner face of the bushing and below the openings $c\,c'$ is cut the annular groove D, which is constructed in two parts—that is, it is composed of the semicircular narrow and wide grooves $d\,d'$. It will be observed that the narrow groove d is provided with the inclined top and bottom, while only the top of the groove d' is inclined, which groove is twice the width of groove d.

The operating-key is indicated by the letter E, and is provided with the collar E′, which is provided with the lug e. This lug is made to correspond with the depth and width of the semicircular groove d', formed in the bushing. It will be understood that the narrowest notch c' occupies the uppermost position when the bushing is properly placed in the bung. If we suppose, then, that the valve is completely closed and it is desired to insert the key, the lug e of said key is brought so as to register with the opening c', and as the key is inserted the triangular notch engages the upper triangular end of the spindle. The key is then turned to the right until the lug e reaches the lower wide opening c, when its further progress will be retarded by the narrow groove d. The key may then be withdrawn, leaving the valve open, so that the barrel may be thoroughly cleansed, and when thus cleansed, instead of being compelled to calk the opening or bung, all that is necessary is simply to reinsert the key and turn the same to the left until it reaches its original position, when of course the valve will be completely closed, and thus be in proper position for the insertion of the faucet. Of course it is evident that the necessity for the employment of the key only arises after the barrel is relieved of its contents and is returned to the brewery, as it is then that the brewer finds it necessary to subject the same to a thorough cleansing process. It will also be noticed that the collar E′ is provided with a leg e', projecting inwardly flush from the surface of the periphery of said collar. This leg or lug when the key is turned rests upon the inner seat of the bushing and has the function of preventing the key from canting sidewise when the same is turned, said leg being guided in its movements by an annular ridge c^3, located upon said seat. My key as thus constructed may be inserted into the bushing in the dark as well as in the light without fear of being wrongly placed or of leaving the valve partly turned on when withdrawn. In devices of a similar nature to this an index-finger has been provided in order to indicate when the valve has been turned sufficiently; but this construction is open to many disadvantages and is totally unfit for use in dark cellars or vaults.

The faucet employed by me in connection with the present bushing is the same as that described in my former application and calls

for no specific mentioning herein, excepting that I provide the annular collar F, which is adapted to fit snugly against the face of the bushing and within the countersunk rim. If so desired, a rubber washer may be interposed between the collar and bushing, thereby making the faucet perfectly rigid in the bushing, owing to the reason that the washer is lightly forced into the countersunk rim. Fig. 12 of the drawings, however, shows a washer G, which I insert upon the inner reduced end of the faucet. This washer, when the faucet is properly inserted, rests upon the seat of the bushing and is disposed between the same and the opposite grooves *d d'*. It is obvious, therefore, that as the faucet is turned and the oppositely-inclined lugs thereof bear against the inclined grooves the washer is necessarily compressed, which of course has the effect of drawing the faucet inwardly, whereby an outer connection is made before the valve is opened, so that it is absolutely impossible for any liquid to escape until the proper time. When the spigot has been turned so as to point downward, its farther turning is absolutely prevented, owing to the wedging of the lugs *f f* in the narrower portions of the grooves and the close fit of the annular flange F within the depression of the bushing. In this position it is also impossible to withdraw the spigot, and, as previously stated, this can only be accomplished by turning the same back to its starting-point and closing the valve, thereby rendering it impossible for any one to remove the faucet without closing the valve and hermetically sealing the same so as to prevent souring of the barrel, as is frequently the case when the bung-hole is left open. By this action, therefore, the valve is entirely closed before the connection is broken, and I thereby provide means whereby an outer connection is made before the valve is open, and vice versa. It will be observed that the rubber washer also has the effect of drawing the flange F inwardly, so as to fit closely within the annular depression of the bushing, thus assisting in preventing the turning of the valve too far, and also affording means for steadying the faucet and obviating the danger of wabbling. The faucet, it will also be noticed, is provided below the annular collar F with diametrically-opposite lugs *f f*. These lugs have the same thickness of metal, but one is wider than the other, so as to correspond with the wider opening *c* of the bushing. It will be further observed that their upper surfaces are beveled in opposite directions, so as to register with the beveled surfaces of the grooves *d d'*. In inserting this faucet in place the upper or narrow lug *f* is brought to register with the upper narrow opening *c'*. This places the spigot at an exactly horizontal position. After this said spigot is turned to the right, and as it is thus turned the inclines of the lugs register with the inclines of the grooves and gradually wedge themselves therein. The faucet is permitted to turn, however, a sufficient distance to allow the valve to open and to bring the spigot so that the opening will point downward. After this position is reached, however, it is impossible to turn said spigot farther in the same direction, so that it is impossible to withdraw the same without bringing it back to its original position, or to the starting-point.

I am aware that many minor changes may be made in the arrangement of parts and details of construction herein shown and described without necessitating a departure to be made in the nature and scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent of the United States, is—

1. The combination of a barrel having the bung-hole thereof threaded and provided with an annular cut-away portion terminating at a point removed from the inner surface bordering the bung hole and forming an annular seat, and a thimble provided with exterior and interior threads, said thimble fitted in the cut-away portion and resting upon the annular seat and of less length than the cut-away portion, thus leaving the outer and inner edges of the barrel extending beyond the corresponding ends of the thimble, and a bushing having exterior threads throughout its length for a distance corresponding with the threads of the thimble, and also provided at its outer end with an annular flange resting upon the top of the thimble and against the contiguous surface of the barrel which borders the bung-hole, substantially as set forth.

2. The combination of a tap or bushing for barrels having opposite narrow and wide semicircular grooves, said grooves provided with diametrically-opposite openings intersecting the same, one of said openings being wider than the other, and a faucet provided with opposite lugs, the lugs being of different widths, so as to correspond to the varying widths of the openings intersecting the grooves, substantially as set forth.

3. The combination of a tap or bushing for barrels having opposite narrow and wide semicircular grooves, said grooves provided with diametrically-opposite openings intersecting the same, one of said openings being wider than the other, and an operating-key having a laterally-projecting lug corresponding to the narrow opening intersecting one of the semicircular grooves, substantially as set forth.

4. The combination, with a tap or bushing provided with an interior seat and also having opposite narrow and wide semicircular grooves, said grooves provided with diametrically-opposite openings intersecting the same, the openings being of varying widths, of an operating-key having a laterally-projecting lug corresponding to the narrow open-

ing, and an opposite foot or projection which bears upon the seat of the bushing, substantially as set forth.

5. The combination, with a tap or bushing provided with an interior seat having an annular ridge, and also having opposite narrow and wide semicircular grooves, said grooves provided with diametrically-opposite openings intersecting the same, said openings being of varying widths, of an operating-key having a laterally-projecting lug corresponding to the narrow opening, and an opposite foot or projection which bears upon the seat and is guided by the annular ridges thereof, substantially as set forth.

6. The combination of a tap or bushing for barrels having opposite narrow and wide semicircular inclined grooves, said grooves provided with diametrically-opposite openings, one of said openings being wider than the other, and an operating-faucet provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, substantially as set forth.

7. The combination of a valve and valve-spindle, a bushing having opposite narrow and wide semicircular inclined grooves, said grooves provided with diametrically-opposite openings, one of said openings being wider than the other, and an operating-faucet adapted to engage the valve-spindle and provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, substantially as set forth.

8. The combination of a tap or bushing for barrels having opposite narrow and wide semicircular inclined grooves, said grooves provided with diametrically-opposite openings, one of said openings being wider than the other, an operating-faucet provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, and a washer upon the reduced end of the faucet adapted to be compressed in the semicircular grooves as the faucet is turned, substantially as set forth.

9. The combination of a valve and valve-spindle, a bushing having opposite narrow and wide semicircular inclining grooves, said grooves provided with diametrically-opposite openings, one of said openings being wider than the other, an operating-faucet adapted to engage the valve-spindle and provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, and a washer fitted in the inner reduced end of the faucet and adapted to be compressed in the semicircular groove as said faucet is turned, substantially as set forth.

10. The combination, with a tap or bushing for barrels having opposite narrow and wide semicircular grooves, said grooves provided with diametrically-opposite openings intersecting the same, one of said openings being wider than the other, and also provided at its outer end with an inwardly and outwardly extending flange, the former on a plane below the plane of the outer portion of the flange and forming the outer bordering surface of the grooves, of a faucet provided with opposite lugs of different widths, so as to correspond to the varying widths of the openings intersecting the grooves, substantially as set forth.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

MARK ANTHONY.

In presence of—
N. A. ACKER,
J. H. BLOOD.