No. 865,216. PATENTED SEPT. 3, 1907.

A. ULLMANN.

FAUCET.

APPLICATION FILED APR. 10, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

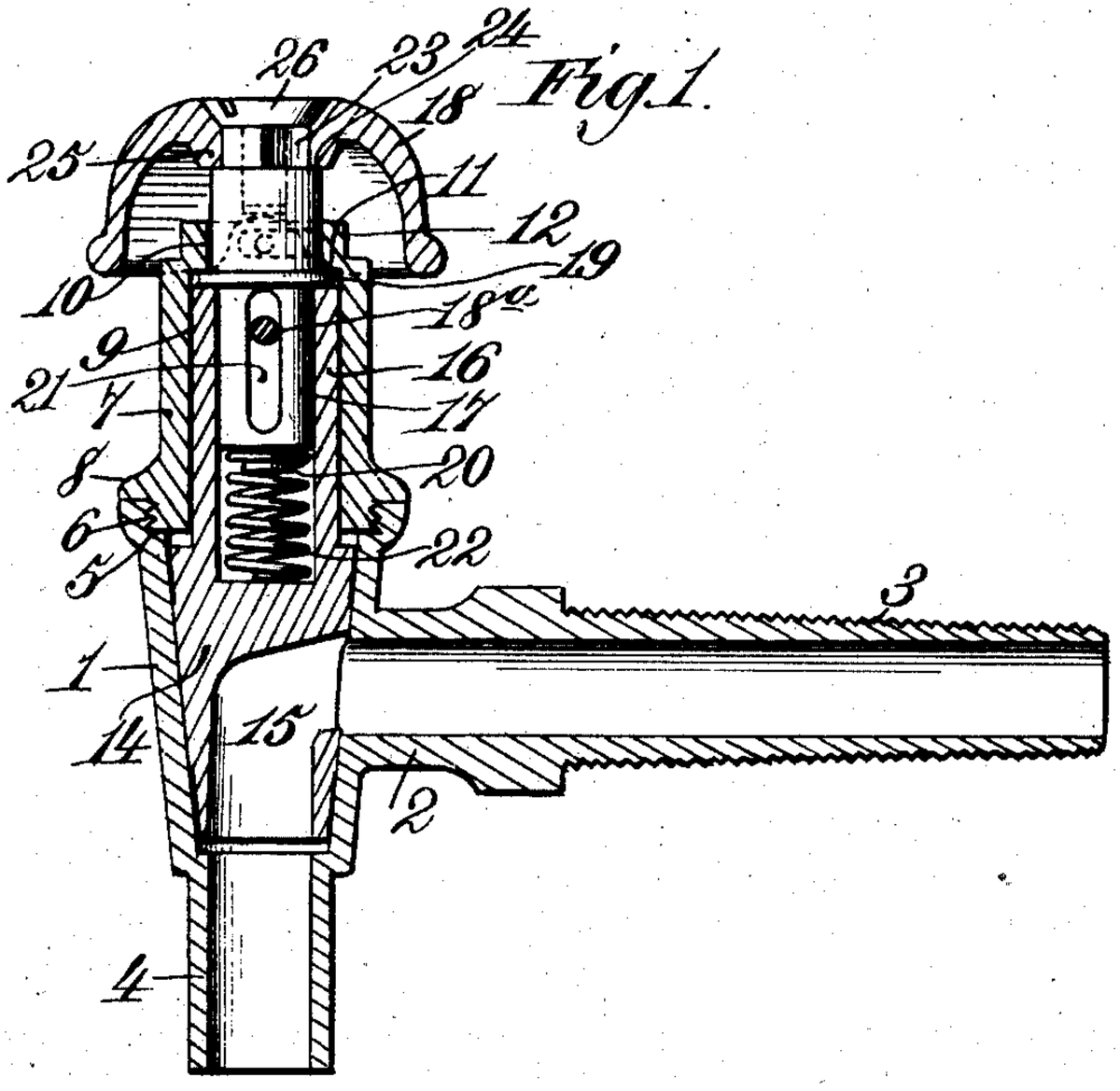


Fig. 2.

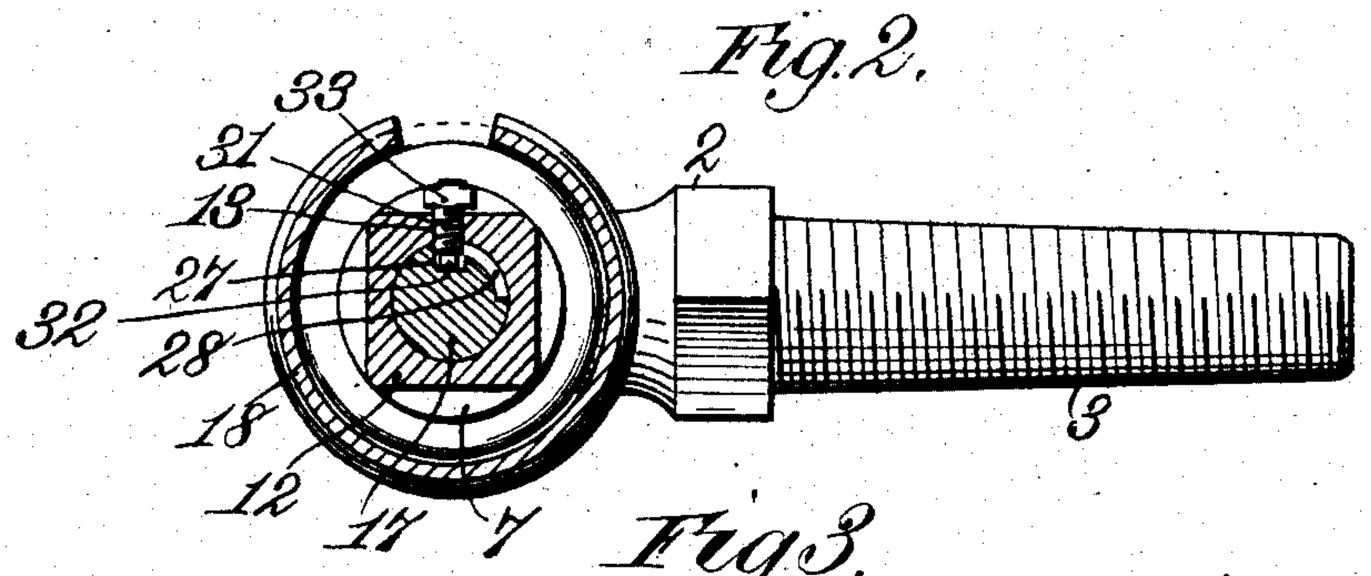


Fig 3.

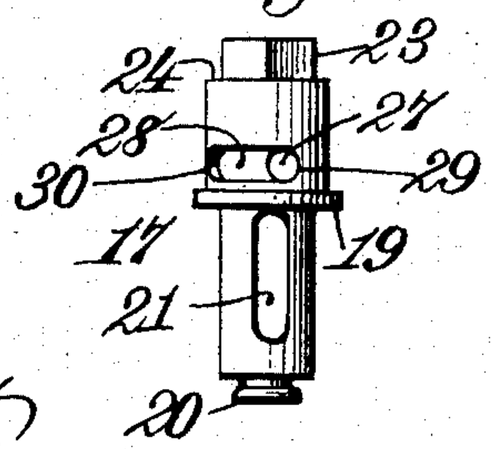
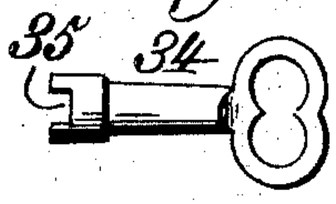


Fig 4.



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W. B. Treadwell

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2 SHEETS—SHEET 2.

Fig. 5.

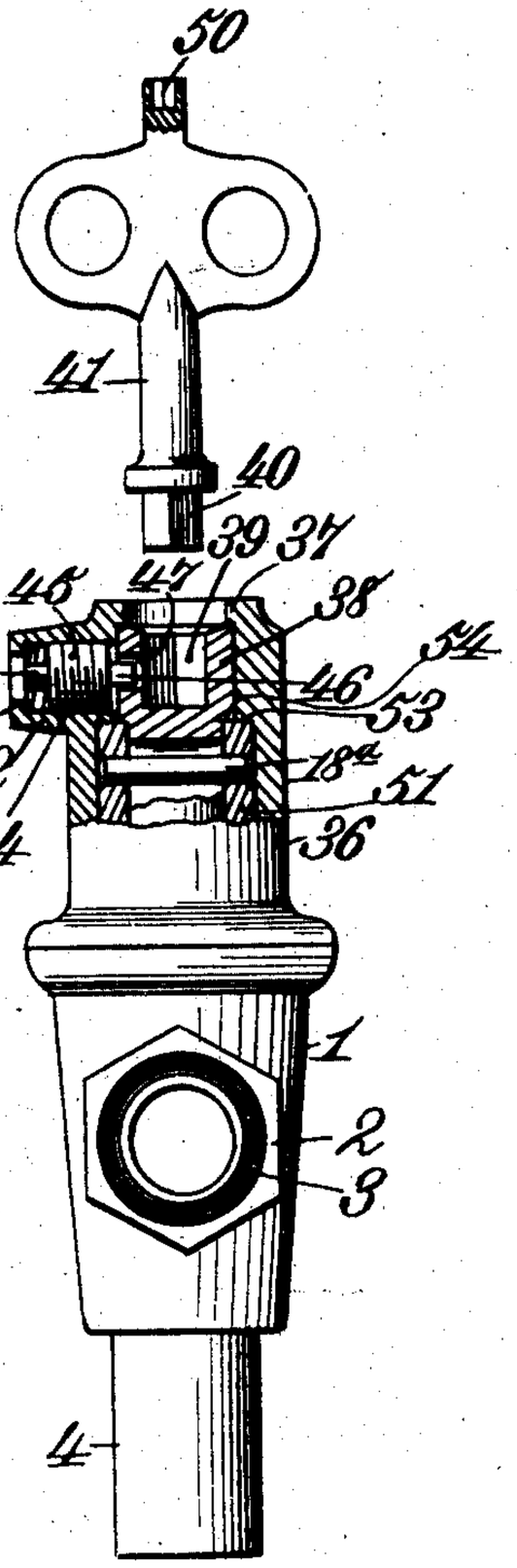


Fig. 6.

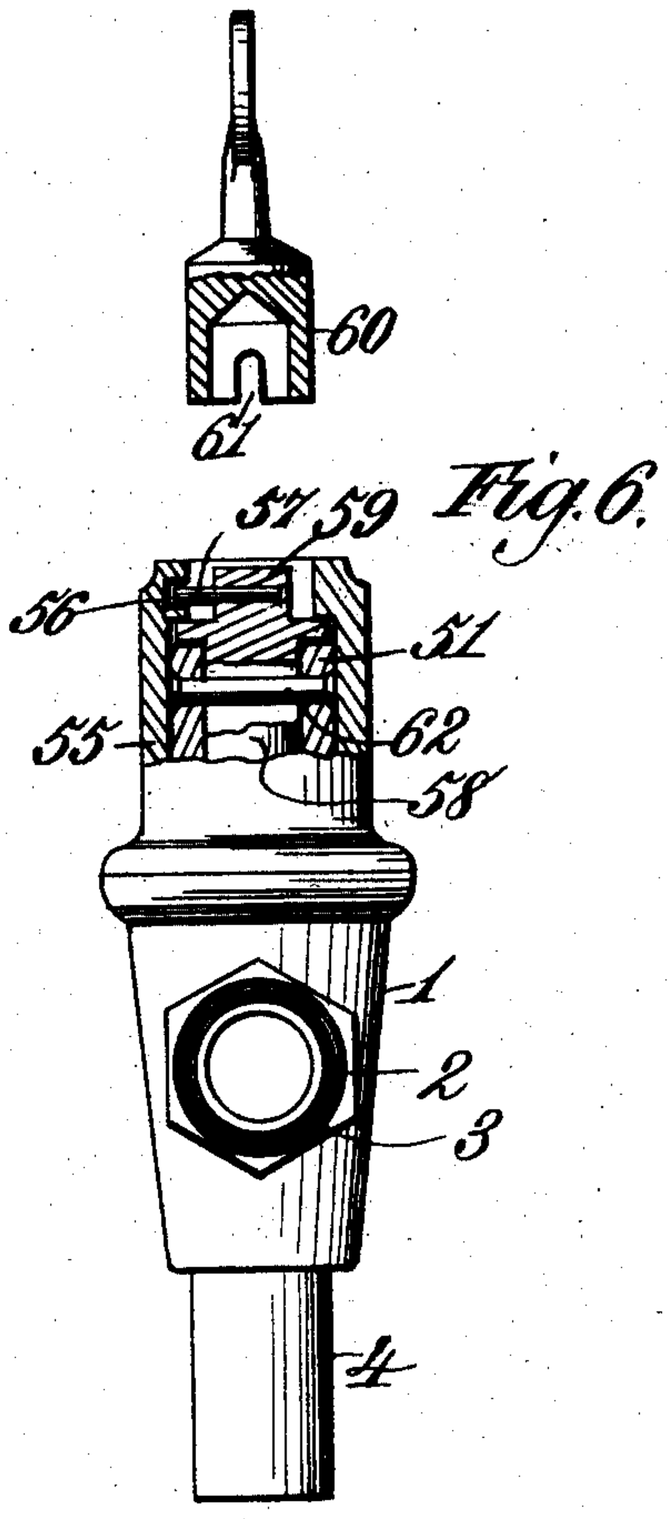


Fig. 7.

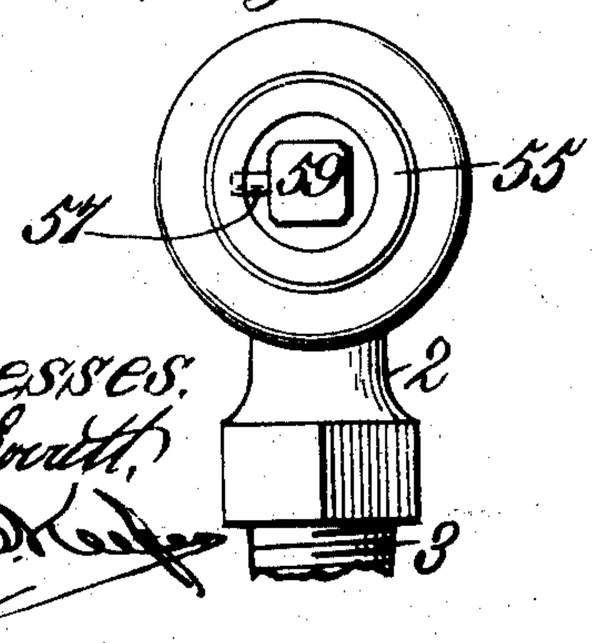


Fig. 8.

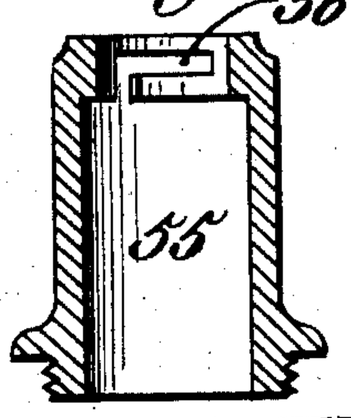
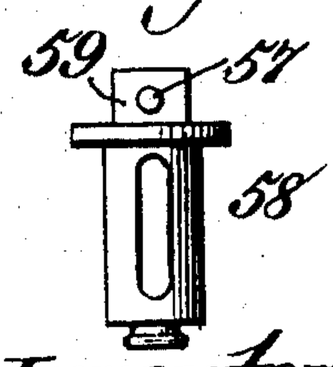


Fig. 9.



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UNITED STATES PATENT OFFICE.

ALBERT ULLMANN, OF MACON, GEORGIA.

FAUCET.

No. 865,216. Specification of Letters Patent. Patented Sept. 3, 1907.

Application filed April 10, 1906. Serial No. 310,946.

To all whom it may concern:

Be it known that I, ALBERT ULLMANN, a citizen of the United States, residing at Macon, in the county of Bibb and State of Georgia, have invented new and useful Improvements in Faucets, of which the following is a specification.

This invention relates to faucets, cocks and the like for controlling the passage of gas, water, steam or other fluids; and aims to provide a device of such class in a manner as hereinafter set forth with locking means to prevent the opening thereof, and further to so position and construct said locking means as to cause the same, when released, to constitute a stop to limit the movement in either direction of the plug of the device.

The invention further aims to provide the device with a self-tightening means, as hereinafter set forth, for automatically retaining the plug of the device in snug contact with the walls of the body portion or casing of the device, thereby compensating for the wear of the plug due to friction, and consequently preventing leakage.

The invention further aims to construct a faucet, cock or valve for the purpose set forth which shall be simple in its construction, strong, durable, efficient in its use, normally in locked position, readily opened, durable and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention; but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts through the several views:

Figure 1 is a sectional elevation of the device in accordance with this invention; Fig. 2 is a sectional plan; Fig. 3 is a side elevation of the handle shank; Fig. 4 is a detail of the key; Fig. 5 is a sectional elevation of a modified form of faucet in accordance with this invention; Fig. 6 is a like view of another modification; Fig. 7 is a top plan of Fig. 6 with the key removed; Fig. 8 is a vertical section of the sleeve shown in Fig. 6, and Fig. 9 is a side elevation of the handle-shank.

The invention will be referred to as a faucet, but it is to be understood that the term "faucet" also covers a cock, valve or a like device for controlling the passage of gas, water, steam or other fluid.

Referring to the drawings by reference characters, the faucet embodies a body-portion 1, substantially conoidal in contour, and as shown, said body-portion 1 is provided with a laterally-extending inlet branch 2 having a screw-threaded portion 3, so as to secure the faucet in position; and said body-portion 1 is furthermore provided with a depending outlet branch 4. It is to be understood, however, that the branches 2 and 3 can be positioned with respect to the body-portion 1 in any other desirable manner so that they will properly associate with the port or passage through the plug to be hereinafter referred to. The body-portion 1 is open at its top and formed with an interiorly-arranged annular shoulder 5 and is also provided with interior screw-threads, as at 6, the purpose of which is to connect to said body-portion, an upwardly-extending sleeve 7. The latter is formed with a laterally-extending flange 8 which rests upon the top edge of the body-portion 1, and also has its periphery formed with exterior screw-threads below the flange 8 which are adapted to engage with the screw-threads 6 on the body-portion 1. When the sleeve 7 is connected to the body-portion 1, it is adapted to rest upon the shoulder 6. The sleeve 7 has its inner face cut away so as to form two portions of different diameters, the portion of larger diameter being indicated by the reference character 9 and the portion of smaller diameter by the reference character 10. The cutting away of the inner face of the sleeve 7 so as to form the two portions of different diameters provides the said sleeve 7 on its inner face near the upper end thereof, with a shoulder 11. The sleeve 7 at its top is constructed with a protuberance 12 having a screw-threaded opening 13, the function of which will be hereinafter referred to.

The plug of the faucet is indicated by the reference character 14, and which is substantially conoidal in contour, or in other words, conforms to the shape of the body-portion 1; and the said plug 14 is of less length than the body-portion 1 and is of such diameter as to snugly fit the body-portion, but the fit is such as to permit the turning of the plug when occasion so requires. The plug 14 is formed with an inverted **L**-shaped port or passage 15, which communicates, respectively, with the inlet branch 2 and the outlet branch 4. It will be stated, however, that the construction of the passage 15 must be such as to associate with the arrangement of the inlet branch 2 and the outlet branch 4. By way of example, the passage 15 is of inverted **L**-shape so as to properly associate with the inlet branch 2 and the outlet branch 4; but it is evident that if the arrangement of the branches is changed, the passage 15 will be constructed in such a manner so as to properly associate with the said branches. The plug 14 is formed as shown, with a vertically-extending hollow stem 16, the diameter of which being such as to snugly fit that portion of larger diameter of the inner face of the sleeve 7, but the fit is such as to permit of the plug turning when occasion so requires. The length of the stem 16 is such as to terminate at a point removed from the shoulder 11 formed on the sleeve 7.

The means for turning the plug comprises a handle-

shank 17, a handle 18, by way of example, shown as a notched cap and a turning pin 18a. The handle-shank 17 is in the form of a plug and extends down through the sleeve 7 and into the stem 16, and is of such length as to project above the sleeve 7. The shank 17 has the upper portion thereof of greater diameter than the lower portion, and between the upper and lower portions of the shank 17, a laterally-extending annular flange 19 is provided. That portion of the shank below the flange 19 is of such diameter as to snugly fit the stem 16, and has its lower end formed with a nip 20; and the said lower portion of the shank which extends into the stem 16 is formed with an elongated opening 21 to permit of mounting the shank upon the turning pin 18a. The latter is secured to the upper portion of the stem. The flange 19 of the shank is positioned between the shoulder 11 of the sleeve and the top edge of the stem 16, and constitutes an abutment to prevent the shank being forced out of the stem by a compression spring 22, which is mounted in the stem 16 and bears at its lower end against the plug 14 and at its upper end against the bottom of that portion of the shank which extends into the stem 16. If the flange 19 was not provided, the action of the spring 22 would tend to force the plug out of the stem; and said spring 22 also acts as a means to hold the shank fast to prevent the same vibrating. The spring 22 also acts as a means to keep the plug 14 into close contact with the walls of the body-portion 1, thereby compensating for the wear of the plug due to friction, and consequently preventing leakage. The spring 22 also holds the plug 14 fast so as to prevent vibration thereof. That portion of larger diameter of the shank 17 is cut away, as at 23, so as to form a shoulder 24 and against the said cut away portion 23 and shoulder 24 bears an inwardly-extending boss 25 formed integral with the inner face of the handle 18. The latter is secured to the upper part of the shank through the medium of a screw or rivet 26 which extends into a recess formed in the shank 17. The upper portion of the shank 17 is furthermore provided with a recess or socket 27 which associates with the opening 13 formed in the protuberance 12 of the sleeve 7; and the said upper portion of the shank 17 has its periphery provided with a groove 28 which terminates in the recess 27, the end walls 29, 30 of the grooves acting as a means to limit the turning of the plug in both directions in a manner as hereinafter referred to.

The means for locking the faucet so as to prevent the opening thereof, said means, which in connection with the end walls 29 and 30 of the groove also acts as a stop to limit the movement of the plug in either direction, consists of a screw-threaded locking pin 31 having its inner end formed with a smooth nip 32 and its outer end with a shouldered head 33. The pin 31 is adapted to extend through the opening 13 and its nip 32 into the socket 27, and consequently lock the parts from movement. To release the parts of the faucet so as to enable the plug 14 to be turned, the pin 31 is screwed outwardly a suitable distance so as to withdraw from the socket 27, the nip 32 and to enable the said nip 32 to play in the groove 28; then by shifting the handle 18 in one direction, the plug will be turned and opened, the movement in such direction being limited owing to the fact that the nip 32 will contact with the wall 30 of the groove 28. If it is desired to close the faucet, the handle 18 is shifted in the opposite direction, and such movement is limited by the nip 32 contacting with the wall 29; the parts are now in such position as to enable the pin 31 being screwed inwardly so as to cause the nip 32 to enter the socket 27, consequently locking the parts. The locking pin 31 is operated through the medium of a key 34 having that end which engages with the shouldered head 33 of the locking pin constructed in a suitable manner, as at 35, to receive the shouldered head 33 of the pin 31. The key 34 is separated from the locking pin so that after the faucet has been locked, the key is removed; and consequently to open the faucet, it would be essential to employ the key. By such an arrangement, it is evident that the faucet cannot be tampered with unless one is in possession of the key.

In Fig. 5 the construction of the faucet is the same as that shown in Fig. 1, with the exception that a removable handle is employed and the locking pin is secured in position so as to prevent it being screwed entirely out of the sleeve. In Fig. 5, 36 denotes the sleeve having an inwardly-extending shoulder 37 against which abuts a handle-shank 38 which is the equivalent of the handle-shank 17. The said shank 38 is connected in the same manner to the stem of the plug as shown in Fig. 3. The handle-shank 38 has a recess 39 formed in the upper end thereof and which receives the lower end 40 of the separable handle 41. The sleeve 36 is formed with a boss 42 having an inturned flange 43. The inner face of said boss 42 is screw-threaded as at 44, with which engages the screw-threaded locking pin 45, the latter having a nip 46 which extends in an opening 47 formed in the sleeve 36. The head of the locking pin 45 is indicated by the reference character 48 and it is adapted to be engaged by a suitable key so that the pin 45 can be shifted to withdraw the nip 46 out of the opening 47 and to position the nip 46 into a groove formed on the periphery of the shank 38, the said groove being similar to the groove 28 and for the same purpose. As shown, the separable handle 41 has its upper end formed with a recess 50 to receive the head 48 of the locking pin 45. By such an arrangement, the handle 41 can be used to release the parts and also to turn the plug. The flange 43 prevents the entire withdrawal of the locking pin 45 from the sleeve 36. The stem 51 of the plug is of such length as to abut against an interiorly-arranged shoulder 53 formed on the inner face of the sleeve 36. In the construction shown in Fig. 1, the stem of the plug bears entirely against a shoulder formed on the handle-shank 17, whereas in the construction shown in Fig. 5, the stem 51 of the plug not only bears against a shoulder 54 formed on the handle-shank 38, but also bears against the shoulder 53.

In the construction shown in Figs. 6, 7, 8 and 9, the locking pin is dispensed with and a removable handle is employed to turn the plug. Otherwise than that as pointed out, in the following, the construction of faucet shown in Figs. 6, 7, 8 and 9 is the same as that shown in Fig. 1. The sleeve 55 which is the equivalent of the sleeves 7 and 36 is provided with a bayonet shaped groove 56, in which is adapted to play a protuberance 57 carried by the upper end of the handle-

shank 58. The upper portion of the handle-shank 58 is cut away so as to make a part of smaller diameter, as indicated by the reference character 59, and the said part 59 has secured thereto the protuberance 57, the latter being of such length as to extend in the horizontal portion of the groove 56. By forming the part 59 in the manner as stated, the same can be straddled by a removable handle 60 notched as at 61, so as to straddle the protuberance 57. If the separable handle 60 is in the position to straddle the part 59 of the handle-shank 58, the shank can be turned, which will also cause a corresponding movement of the plug through its stem, as the latter is connected to the handle-shank 58 by the pin 62. The walls of the groove 56 act as stops to limit the turning movement of the plug in either direction. When the faucet is not to be used, the handle 60 is removed.

In the construction shown in Figs. 5, and 6, the stem of the plug is hollow, and the hollow stem of the plug carries a spring which is interposed between the end of the handle-shank and the plug, and the plug stem is connected to the handle-shank by a pin, which is the same construction as that illustrated in Fig. 1.

From the foregoing construction, it is evident that a faucet is set up embodying a locking device so as to prevent unauthorized persons from opening the faucet; and furthermore, the locking means acts as a stop to limit the turning movement of the plug of the faucet. In some instances it is not necessary to lock the plug, but it is advantageous to provide means to arrest the turning movement of the plug; consequently, when the locking means is not employed to hold the parts fast, its function will be such as to limit the turning movement of the plug in either direction. Furthermore, the construction and arrangement of the parts of the faucet provide what may be termed a self-packing faucet so that the plug is kept steam or water-tight at all times owing to the fact that a means is provided to compensate for the wear of the plug, due to friction, and thereby preventing leakage.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A faucet comprising a plug, means for locking the plug from movement, said means when released constituting a stop to limit the turning movement of the plug in either direction, and means within the shank of the plug for automatically packing the plug.

2. A faucet comprising a body-portion, a plug mounted therein and having a hollow stem, a handle-shank extending in and connected to the stem, means within the stem and bearing against the shank and plug for automatically packing the plug, and a locking means engaging in the shank to prevent the turning of the plug.

3. A faucet comprising a body-portion, a plug mounted therein and having a hollow stem, a handle-shank extending in and connected to the stem, means within the stem and bearing against the shank and plug for automatically packing the plug, and a locking means engaging in the shank to prevent the turning of the plug, said means when released adapted to engage the shank at two points to limit the turning movement of the plug in either direction.

4. A faucet comprising a body-portion, a sleeve connected thereto and provided with a shoulder, a plug mounted in the body-portion and having a hollow stem extending in the sleeve, a handle-shank arranged in the sleeve and extending in and connected to the stem, said shank provided with a flange abutting against the shoulder of the sleeve, a spring mounted in the stem and bearing against the shank and plug for automatically packing the plug, and a locking means extending through the sleeve and engaging in the handle shank to prevent the turning of the plug.

5. A faucet comprising a body-portion, a sleeve connected thereto and provided with a shoulder, a plug mounted in the body-portion and having a hollow stem extending in the sleeve, a handle-shank arranged in the sleeve and extending in and connected to the stem, said shank provided with a flange abutting against the shoulder of the sleeve, a spring mounted in the stem and bearing against the shank and plug for automatically packing the plug, and a locking means extending through the sleeve and engaging in the handle to prevent the turning of the plug, said means when released adapted to engage the shank at two points and constitute a stop to limit the turning movement of the plug in either direction.

6. A faucet comprising a body-portion, a sleeve connected thereto and provided with a shoulder, a plug mounted in the body-portion and having a hollow stem extending in the sleeve, a handle-shank arranged in the sleeve and extending in and connected to the stem, said shank provided with a flange abutting against the shoulder of the sleeve, a spring mounted in the stem and bearing against the shank and plug for automatically packing the plug, a locking means extending through the sleeve and engaging in the handle to prevent the turning of the plug, said means when released adapted to engage the shank at two points and constitute a stop to limit the turning movement of the plug in either direction, and means for operating said locking means.

7. A faucet comprising a body-portion, a plug mounted therein and having a hollow stem, a handle-shank extending in and connected to the stem, means within the stem and bearing against the shank and plug for automatically packing the plug, a locking means engaging in the shank to prevent the turning of the plug, said means when released adapted to engage the shank at two points to limit the turning movement of the plug in either direction, and means for operating said locking means.

8. A faucet comprising a plug, a handle element for turning the plug a pin and elongated slot connection between the handle element and the plug for permanently connecting the plug and element together and causing thereby the turning of the plug when the handle element is shifted, a locking means engaging the handle element to prevent movement of the plug, said locking means when moved to released position adapted to constitute a stop engaging with the handle element to limit the turning movement of the plug, and means interposed between the handle element and the plug for automatically packing the plug.

9. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, and a stop engaging the handle element for limiting the turning movement of the plug in either direction.

10. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, and a releasable locking pin extending through the sleeve and engaging in the handle element for locking the plug from movement.

11. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending

in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, a releasable locking pin extending through the sleeve and engaging in the handle element for locking the plug from movement, and means for releasing the locking pin.

12. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, a releasable locking pin extending through the sleeve and engaging in the handle element for locking the plug from movement, and means for releasing the locking pin, said pin when released adapted to engage said handle element at two points, thereby constituting a stop for limiting the turning movement of the plug in either direction.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALBERT ULLMANN.

Witnesses:
N. L. BOGAN,
CHAS. S. HYER.