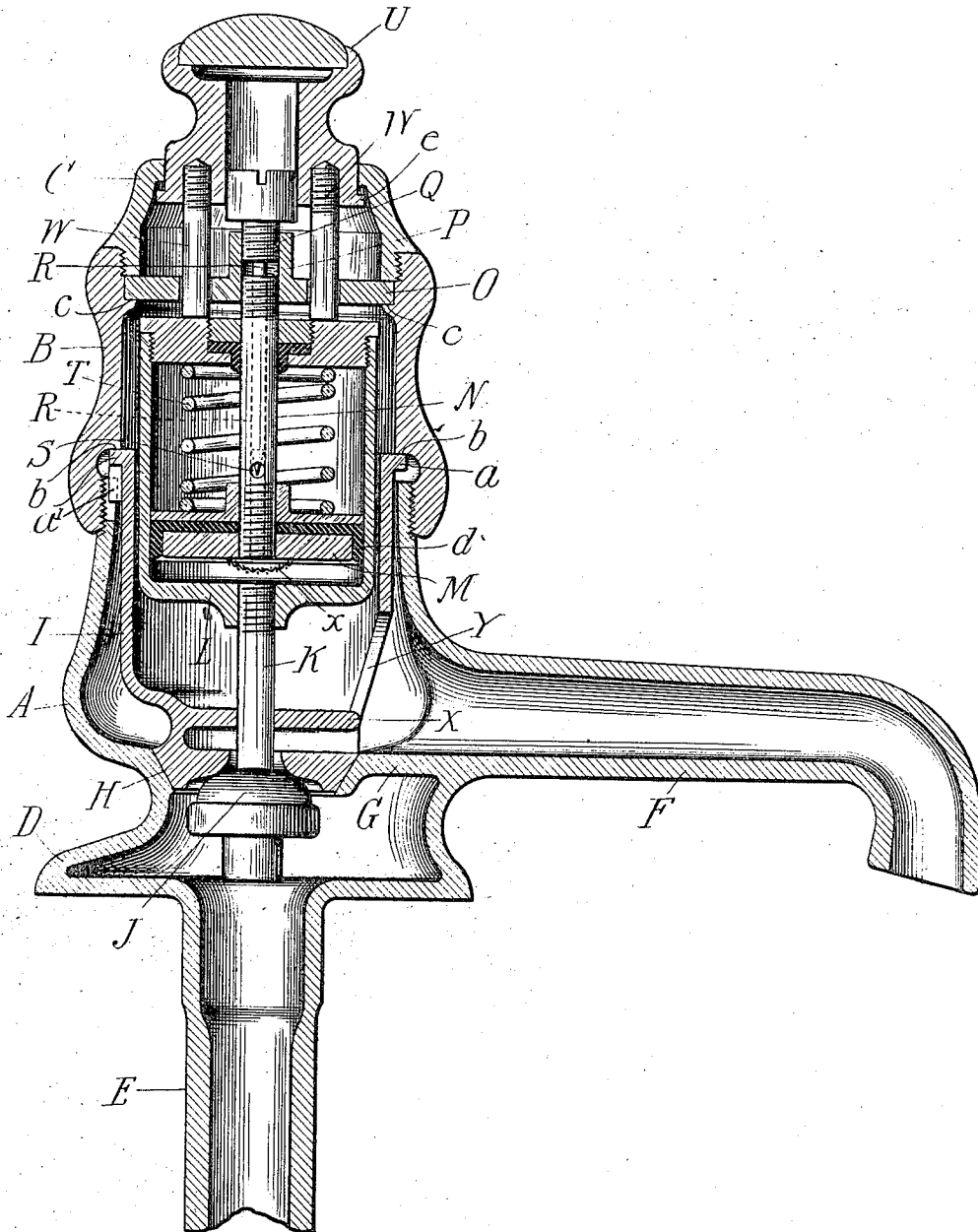


E. G. WATROUS.
 BASIN COCK.
 APPLICATION FILED AUG. 28, 1911.

1,063,230.

Patented June 3, 1913.



Witnesses
 Martin H. Olsen.
 Robert Doblerman

Inventor
 Earl G. Watrous
 By Hector Kibben, Attorney

UNITED STATES PATENT OFFICE.

EARL G. WATROUS, OF CHICAGO, ILLINOIS.

BASIN-COCK.

1,063,230.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed August 28, 1911. Serial No. 646,469.

To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Basin-Cocks, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

My invention has for its object the provision of a simple and efficient slow-closing basin-cock of improved construction, the valve of which may be opened by depressing a push-button in the top of the cock, and the speed of its closing movement be regulated as desired. Its novelty will be hereinafter set forth and particularly pointed out in my claims.

Referring to the accompanying drawing, which represents a middle vertical section of my improved basin-cock in the plane of the discharge spout thereof, the outer casing of the structure is composed of three parts A, B, and C, the part A being provided with the base portion D, depending shank E communicating with the water supply, and the discharge spout F. The part A is provided internally with a horizontal diaphragm or partition G whose upper surface in the present instance is coincident with the upper surface of the lower wall of the discharge spout F, and which has formed in it a conical seat in which rests the correspondingly shaped lower end H of a cage I, the upper end of whose cylindrical body portion is provided with an external annular flange *a* which is engaged by an internal annular shoulder *b* formed upon the part B of the casing, whereby when said part B of the casing is screwed upon the upper end of the part A of the casing the lower end H of the cage I may be forced to its seat in the diaphragm or partition G and firmly held therein. The cage I is provided upon its rear side, near its upper end, with a lug *a'* which fits in a notch in the adjacent portion of the casing, to facilitate proper positioning of the cage I in assembling the parts of the valve and to prevent subsequent rotary displacement of it.

The water-way through the valve structure, which is controlled by the valve, is formed centrally in the lower end H of the cage I, and is controlled by a valve J screwed upon the lower end of a stem K which is screwed at its upper end into the lower end

or head of a closed cylinder L which is free to travel up and down within the cylindrical cage I surrounding it. Located within the cylinder L is a fixed piston M carried by the lower end of a rod or stem N whose upper end is screwed into a horizontal diaphragm or plate O which is seated upon an internal annular shoulder *c* formed for it in the upper end of the part B of the casing and is held in position thereon by the lower end of the upper member C of the casing which is screwed into the internally threaded upper end of the part B. The fixed diaphragm or plate O is provided with a central upwardly projecting boss P which is internally threaded and engaged by the threaded shank of a regulating screw Q. The fixed piston rod N is tubular in form, having a central bore or passage extending entirely through it and opening at its lower end through the piston M into the interior of the cylinder L beneath said piston. The regulating screw Q carries a long rod R (shown in dotted lines) which extends downwardly in the tubular piston rod N and at its lower end coöperates with a small hole or port S opening through the side of the said rod into the portion of the cylinder above the piston, said port and the portion of the central passage or bore of the piston rod beneath it furnishing communication, through the piston M, between the portions of the interior of the cylinder above and below the piston, such communication being regulated by means of the screw Q and its depending rod R. The cylinder L is filled with oil, and the piston M is provided with a cup leather valve *d* which permits the passage of the oil around the sides of the piston when the cylinder is moved downwardly upon the piston, but prevents such passage when it is moved upwardly thereon. A coiled spring T, surrounding the piston rod N and confined between the piston M and the upper head of the cylinder, yieldingly presses the latter upward and normally holds the valve J against its seat, to close the water passage through the same. The valve is depressed, to open said passage, by means of a push button U which is provided with a central bore surrounding and fitted to slide upon the head of the regulating screw Q. The push button U has screwed into its underside, upon opposite sides of its central axis, the upper ends of two rods W, whose lower ends extend through holes

formed for them in the plate O and rest upon the upper end or head of the cylinder L. The push button U is also provided with an external annular flange *e* at its lower end, while the part C of the casing is provided with an internal annular flange or shoulder cooperating therewith, to prevent displacement of the push button.

The cage I is provided near its lower end, a short distance above the valve seat, with a horizontal diaphragm X through which the valve stem K passes and which serves as a guide therefor, and which also operates to deflect the stream of water flowing upward through the valve seat and direct it outward to the discharge spout F. The cage I is further provided with an opening Y in its lower forward side, through which any water that passes upward around the valve stem K into the lower part of the cage I may escape therefrom to the spout F.

Under the above described construction the operation of my improved basin-cock is as follows: The coiled spring T, resting at its lower end upon the fixed piston M and pressing at its upper end against the upper head of the cylinder L, serves to yieldingly hold the latter in its upper position, shown in the drawing, with the valve J seated and the water passage closed. When it is desired to open the valve the push button U is depressed, carrying the cylinder L and valve J downwardly with it, the oil contained within the portion of the cylinder above the piston M freely passing at such time around the piston to the portion of the cylinder beneath it. Upon the release of pressure on the push button the spring T tends to lift the cylinder L to normal position again and close the valve J, but at such upward movement of the cylinder upon the fixed piston M the cup valve *d* of the latter fits tightly against the walls of the cylinder and prevents free passage of the oil from the lower portion of the cylinder to the upper portion thereof, around the piston, with the result that the cylinder can move upwardly only so fast as the oil can escape from the lower portion of the cylinder through the piston and the regulated port S to the upper portion of the cylinder. A slow-closing movement of the valve is thus provided for, which can be regulated as desired by means of the regulating screw Q and its control of the port S.

A wire screen *x* soldered to the under side of the piston M beneath the open end of its rod N prevents any foreign particles in the oil beneath the piston from passing upward into the piston rod and clogging it and the port S.

By the construction which I have illustrated and described I have not only provided a simple and efficient slow-closing basin-cock, but one which lends itself to eco-

nomical manufacture and to readiness of assemblage and of disassemblage for inspection, cleaning and repair. Upon unscrewing the member B of the casing from the member A the member B and cage I, with all of the parts inclosed within and located above them, may be removed from the member A, and upon then unscrewing the valve J from the lower end of the stem K the cage I may be removed, to give access to the parts within it, and further disassemblage be proceeded with in an obvious manner.

I claim:

1. In a basin-cock, the combination, with a casing having an inlet and an outlet, with a waterway and valve-seat between them, of a fixed piston M having a tubular stem N provided with a port S, a regulating screw Q—R controlling the port S, a closed cylinder L surrounding and traveling upon the piston M, a concentrically disposed push button U vertically movable in the upper part of the casing and provided with the depending pins W, W engaging the upper end of the cylinder L on opposite sides of the piston stem N, a coiled spring T interposed between the piston M and upper end of the cylinder L, and a valve stem K and valve J carried by said cylinder; substantially as described.

2. In a basin-cock, the combination, with a casing having an inlet and an outlet, with a waterway and valve-seat between them, of a fixed piston M having a tubular stem N provided with a port S, a regulating screw Q—R controlling the port S, a closed cylinder L surrounding and traveling upon the piston M, a push button U located in the top of the casing and guided vertically upon the head of the regulating screw Q—R, devices intermediate said button and the cylinder L for causing the depression of the button to depress the cylinder, a coiled spring T for raising the cylinder, and a valve stem K and valve J carried by the cylinder; substantially as described.

3. In a basin-cock, the combination, with a casing having an inlet and an outlet, with a waterway and valve-seat between them, of a plate O secured in the upper part of the casing and having a central boss P, a hollow piston rod N secured at its upper end in the plate O and provided with the port S, a piston M secured to the lower end of said rod, a regulating screw Q—R screwed at its upper end into the central boss P of the plate O and extending downward through the hollow piston stem N into position to control the port S, a closed cylinder L surrounding the piston M, a valve stem K and valve J carried by said cylinder, a push button U located in the upper part of the casing and provided with the depending pins W, W passing through holes in the plate O

on diametrically opposite sides of the central boss P, and a spring T surrounding the piston stem N within the cylinder L for lifting the latter after it has been depressed by the push button U; substantially as described.

4. In a basin-cock, the combination, with a casing having an inlet and an outlet, of a removable cage secured in said casing and having a waterway and valve-seat formed in its lower end between the inlet and outlet of the casing, and provided with a horizontal deflector plate above said waterway and valve-seat, a fixed piston having a tubular stem provided with a port, a regulating screw controlling said port, a closed cylinder surrounding and traveling upon the fixed piston within the aforesaid cage, a valve stem and valve carried by said cylinder, means for depressing the cylinder to open the valve, and a spring for lifting the cylinder to close the valve; substantially as described.

5. In a basin-cock, the combination, with a casing having an inlet E and outlet F and provided between them with a horizontal diaphragm or partition G having a tapering seat formed in it, a cage I secured in said casing and provided with a tapering lower end H fitting the tapering seat in the partition G and having a waterway and valve-seat formed in it, and provided with a horizontal deflector plate X above said waterway and valve-seat, a fixed piston M having a hollow stem N provided with a port S, a regulating screw Q—R for controlling said port, a closed cylinder L surrounding and traveling upon said piston within the cage I, a valve stem K and valve J carried by said cylinder, means for depressing said cylinder to open the valve, and a spring for lifting the cylinder to close the valve; substantially as described.

6. In a basin-cock, the combination, with a casing having an inlet E and outlet F and provided between them with a horizontal diaphragm or partition G having a tapering seat formed in it, a cage I secured in said casing and provided with a tapering lower end H fitting the tapering seat in the partition G and having a waterway and valve-seat formed in it, and provided with a horizontal deflector plate X above said waterway and valve-seat, a fixed piston M having a hollow stem N provided with a port S, a regulating screw Q—R for controlling said port, a closed cylinder L surrounding and traveling upon said piston within the cage I, a push button U located in the upper part of the casing, devices intermediate said button and the upper end of the cylinder for causing depression of the button to depress the cylinder, and a spring T surrounding the piston stem N within the cylinder L for lifting the latter; substantially as described.

7. In a basin-cock, the combination, with a casing comprising the part A having the base B, inlet E, discharge spout F and horizontal diaphragm or partition G, and having an externally threaded upper end, the part B screwed upon the upper end of the part A and provided with the downwardly facing internal annular shoulder *d* near its lower end and with the upwardly facing internal annular shoulder *c* near its upper end, and the part C screwed into the upper end of the part B, of the cage I having a tapered lower end resting in a correspondingly tapered seat in the partition G and provided at its upper end with the external annular flange *a* engaged by the annular shoulder *b* of the part B, said cage having a waterway and valve-seat formed in its lower end H and provided above the same with the deflector plate X, the horizontal plate O resting upon the annular shoulder *c* of the part B and engaged by the lower end of the part C, the fixed piston M having the hollow stem N secured at its upper end in the plate O and provided with the port S, the regulating screw Q—R screwed at its upper end into the central boss P of the plate O and operating at its lower end to control the port S, the closed cylinder L surrounding and traveling upon the piston M within the cage I, the valve stem K and valve J carried by said cylinder, means for depressing said cylinder to open the valve, and a spring for lifting the cylinder to close the valve; substantially as described.

8. In a basin-cock, the combination, with a casing comprising the part A having the base B, inlet E, discharge spout F and horizontal diaphragm or partition G, and having an externally threaded upper end, the part B screwed upon the upper end of the part A and provided with the downwardly facing internal annular shoulder *b* near its lower end and with the upwardly facing internal annular shoulder *c* near its upper end, and the part C screwed into the upper end of the part B, of the cage I having a tapered lower end resting in a correspondingly tapered seat in the partition G and provided at its upper end with the external annular flange *a* engaged by the annular shoulder *b* of the part B, said cage having a waterway and valve-seat formed in its lower end H and provided above the same with the deflector plate X, the horizontal plate O resting upon the annular shoulder *c* of the part B and engaged by the lower end of the part C, the fixed piston M having the hollow stem N secured at its upper end in the plate O and provided with the port S, the regulating screw Q—R screwed at its upper end into the central boss P of the plate O and operating at its lower end to control the port S, the closed cylinder L surrounding and traveling upon the piston M within the

cage I, the valve stem K and valve J carried by said cylinder, the push button U confined within the upper member C of the casing by an external annular flange *e* engaged by an internal annular flange or shoulder upon the upper end of the member C, and provided with the depending pins W, W extending through holes in the plate

O into engagement with the upper end of the cylinder L, and the coiled spring T for lifting said cylinder after depression by the button U; substantially as described.

EARL G. WATROUS.

Witnesses:

ENARD RECTOR,

ROBERT DOBBERMAN.