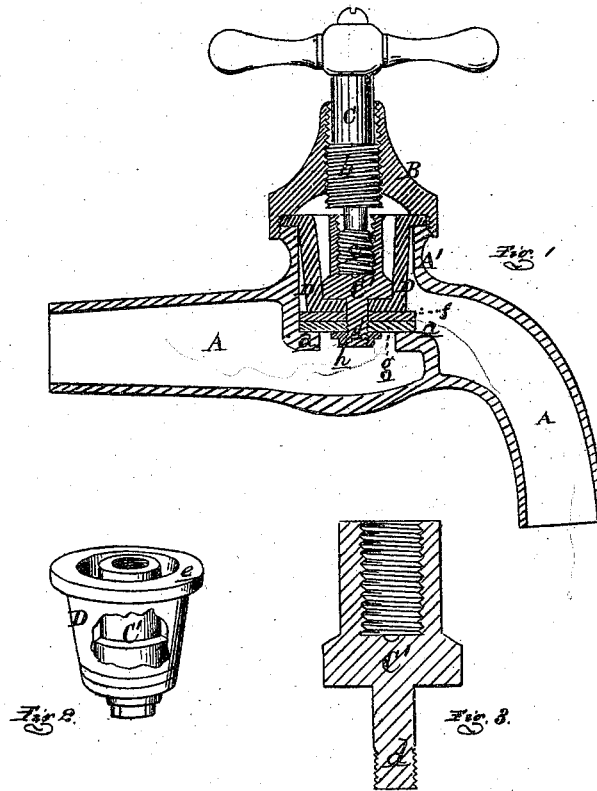


*W. Dimmer,*

*Cock.*

*No. 113503.*

*Patented Apr. 11. 1871.*



ATTEST:

*H. F. Everts.*  
*Myron H. Church.*

INVENTOR:

*William Dimmer*  
*per Attorney*  
*Chas. Springer*

# United States Patent Office.

WILLIAM DINNEN, OF DETROIT, MICHIGAN, ASSIGNOR TO THE DETROIT NOVELTY WORKS, OF SAME PLACE.

Letters Patent No. 113,503, dated April 11, 1871.

## IMPROVEMENT IN COMPRESSION-COCKS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To whom it may concern:*

Be it known that I, WILLIAM DINNEN, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Compression-Cocks; and do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a vertical longitudinal section of my improvement;

Figure 2 is a perspective view of the valve and its cup-shaped packing, the latter partially broken away to show the internal lower section of the stem; and

Figure 3 is a vertical section of the lower end of the stem.

Like letters refer to like parts in each figure.

This invention has for its object an improvement in compression-cocks, whereby the leakage between the stem and packing is entirely prevented.

The invention consists in the combination of a valve-stem constructed in two parts moving upon each other, the lower section carrying a valve-disk and a cup-shaped elastic packing of peculiar construction, arranged with relation thereto and the other parts of the cock, and operating as more fully hereinafter set forth.

In the drawing—

A represents the body of an ordinary bib-cock, having the usual cap-cylinder A', and at the bottom thereof the perforated diaphragm *a*, which forms the valve-seat.

B is the cap, threaded on the cap-cylinder.

O is the main valve-stem, the upper end of which is threaded through the cap with a right-hand thread, *b*.

The lower end of this part of the stem has cut on it a left-hand thread, *c*, on which screws the lower part of the stem C', from the lower end of which depends a threaded stud, *d*.

D is an elastic rubber-cup, forming the packing, and is provided with a flange, *e*, around the top, which rests upon the top of the cap-cylinder A'.

The lower end or bottom of the cup is perforated at the center, through which is inserted the stud *d*; then a metallic washer, *f*, is slipped over the stud, and then an elastic valve-disk, *g*, and the whole secured in place by a nut, *h*, screwed on the stud *d*, which nut, through the washer *f*, compresses the bottom of the cup against the lower end of the valve-stem, and thereby prevents any leakage between the stud and the edges of the opening in the cup.

The parts being in place, as shown in fig. 1, and no vertical expansive or compressive strain being exerted upon the packing-cup, the latter should be of such height as to leave an opening between the valve *g* and its seat.

In practice it is found best to so make the cup that it will give the valve about one-eighth inch opening in its normal condition. Now, by screwing down the stem, the valve will be firmly seated, the walls of the cup stretching to allow the valve to be seated. Reversing the movement of the stem the valve will open, and when above its normal line, if the rotation be continued, the cup will be compressed until a full opening is obtained.

The flange of the cup being compressed between the cap and the top of the cylinder no liquid can pass up into the cap, while the lower section of the stem and its appendages are prevented from rotating, which accelerates the movement vertically of the lower section of the stem through the action of the right-and-left threads of the main stem.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the packing D, constructed as described, with the valve-stems O C', washer *f*, valve *g*, nut *h*, and the cap-cylinder A' and cap B of a compression-cock, when the several parts are constructed, arranged, and operating substantially as and for the purpose set forth.

WILLIAM DINNEN.

Witnesses:

FREDERICK EBERTS,  
WALTER THOMSON.