

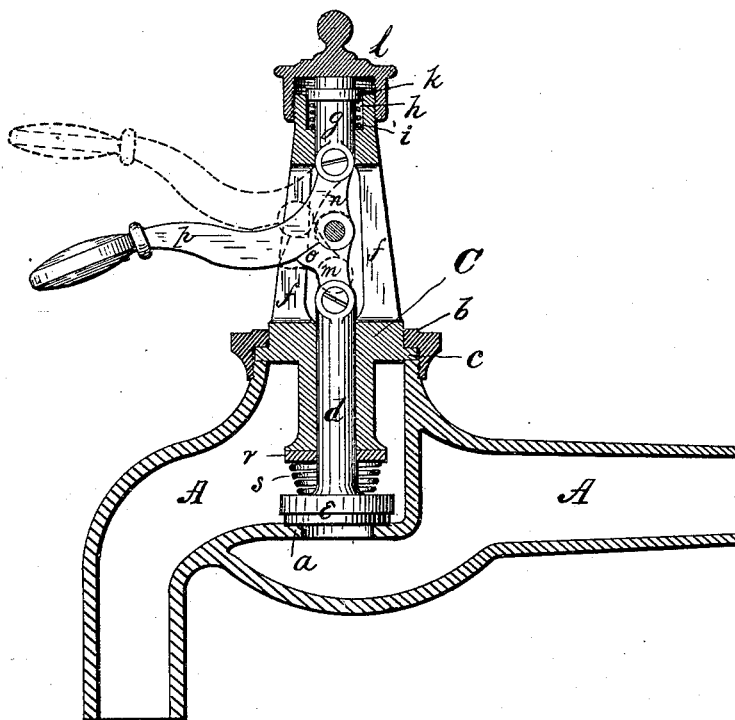
(No Model.)

R. H. LECKY.  
COMPRESSION COCK.

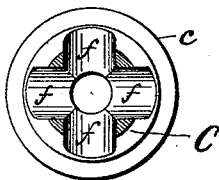
No. 264,715.

Patented Sept. 19, 1882.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*J. J. Patterson*  
*G. H. Welch*

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# UNITED STATES PATENT OFFICE.

ROBERT H. LECKY, OF ALLEGHENY, PENNSYLVANIA.

## COMPRESSION-COCK.

SPECIFICATION forming part of Letters Patent No. 264,715, dated September 19, 1882.

Application filed May 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. LECKY, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Compression-Cocks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a longitudinal vertical section of a bib-cock with my improvements. Fig. 2 is a plan section of the guide post, taken near its top.

This invention relates to the construction of that class of stop-valves known to the trade generally as "compression-cocks"—that is, those in which the valve closes upon its seat by a straight movement without rotation of the valve itself.

My improvements consist in the construction and combination of parts, substantially as hereinafter fully described and claimed.

In the drawings, A designates an ordinary bib-cock as made for a compression-valve, having the flat valve-seat *a*, as shown. To this is fitted the cap *b*, which screws down upon and secures the guide-post C by its flange *c*. Guide-post C has a central bore, in which slides the valve-stem *d*, carrying the valve *e*, which may be of any of the usual forms. Post C above the cap *b* has four radial slots, *f*, cut vertically, or cast so as to leave the post in the form of a cage. Above the slots *f*, which are at ninety degrees from each other, the post C is solid, except a central bore for the reception of the fulcrum-pin *g*, which fits neatly therein, but is movable. At its upper extremity the post C has a recess, *h*, or socket, in which rests a spiral spring, *i*, which bears up against a collar, *k*, formed on the pin *g*. Post C is threaded externally, and a cap-nut, *l*, placed on it, as shown, so as to be adjustable to force the pin *g* downwardly when desirable. The upper end of the stem *d* is pivoted to a toggle-lever, *m*, which is also pivoted to a toggle-lever, *n*, jointed to the bottom of the fulcrum-pin *g*, as shown. Lever *n* has the projecting handle *p*,

and lever *m* is formed with the abutment *o*, the two being so located that when the toggles *m* and *n* are straight together, with the three pivotal centers all in line, the abutment *o* is in firm contact with the handle *p*, thus preventing further movement of the toggles in one direction. The slotting of post C permits the free oscillation of handle *p* and the consequent play of the toggles *m n*. A washer, *r*, is placed against the bottom of the post C, and supported by a spiral spring, *s*, for the purpose of preventing leakage around the stem *g*, which must be free to move. The handle *p* being set in the position indicated by the dotted lines in Fig. 1, the cap-nut *l* is screwed down, forcing down the fulcrum-pin *g*, until on depressing the handle *p* the consequent straightening of the toggles *m n* forces the valve-stem *d* and its valve *e* tightly to its seat *a*. Thus adjusted the device is ready for use. The fulcrum-pin *g* forms a fixed though adjustable point of resistance for the toggles, which can be made to exert a very powerful pressure on the valve.

The device thus embodied possesses many striking features of advantage. The valve has a straight axial movement, whether closing or opening, with no tendency whatever to grind, as is the case with compression-valves moved by rotary screw-stems; hence the valve or washer will not be constantly demanding renewal. The motion is positive, and closing the valve produces no shock, as it is slow and gradual, while the opening of the valve is instantaneous. Both movements are effected by a single motion of the handle, which can readily be operated by the elbow in case the hands are dirty or wet. By use of the toggle-levers I effect the exertion of a graduated power whose maximum is reached when it is most wanted—namely, when the valve has reached its seat and needs to be pressed strongly against it. It is simple in construction and not liable to derangement. If the valve wear somewhat, it can be adjusted to take up the wear in a moment by simply lifting the handle and slightly screwing down the cap-nut, and this without shutting off the water from the pipes. This is impossible with the ordinary compression-cocks. It can be applied to

the ordinary bibs now in use without changing the latter in any respect. It opens and closes quietly, and is not affected by varying pressure, because in the closed position the pivotal points are all on the dead-center, and the valve is immovable no matter what increase occurs in the water-pressure. This adapts it especially as a ball-cock for water-closets. The four radial slots admit of the handle being set in any desired direction without affecting the mode or quality of operation. They also permit of ready access to the screws or pins which connect the toggles with each other and with the valve-stem and fulcrum-pin for the purpose of originally setting the parts or subsequent repairs.

The whole device is contained in the post C, and if the toggle-pins wear out too much the toggles can be dismounted and repaired or the cap-nut and fulcrum-pin removed for repairs without shutting off the supply of water, which will simply run off through its natural outlet in the bib. This is a great advantage.

I claim as my invention—

1. In a compression-cock, an axially-reciprocating valve and an adjustably-fixed fulcrum, in combination with two toggle-levers interposed between and pivoted to said fulcrum and valve or valve-stem, the pivotal points of connection of said toggles to the said valve and fulcrum being on the axis of movement of said valve, and suitable means of operating either of said toggle-levers, substantially as described.

2. In a compression-cock, the combination of a reciprocating valve, *e*, having stem *d*, stem-guide C, independent pin *g*, and the toggles *m n*, interposed and forming the sole connection between said stem *d* and pin *g*, substantially as described.

3. In a compression-cock, the combination, with the reciprocating valve *e*, having stem *d*, of the toggles *m n*, pin *g*, having collar *k*, stem-guide C, spring *i*, and adjustable cap-nut *l*, substantially as described.

4. In a compression-cock, the combination, with the pin *g* and valve-stem *d*, of the abutting toggles *m n*, toggle *m* having the shoulder or abutment *o*, and toggle *n* having the handle *p*.

5. In a compression-cock, the combination of the post C, having radial slots *f*, with valve-stem *d*, toggles *m n*, a fixed fulcrum for said toggles, and a projecting handle, *p*, substantially as described.

6. In a compression-cock, the combination of bib A, post C, having flange *c*, cap *b*, valve-stem *d*, valve *e*, washer *r*, and spring *s*, substantially as described, with suitable means for reciprocating said valve-stem.

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

ROBERT H. LECKY.

Witnesses:

THOMAS J. PATTERSON,  
T. J. McTIGHE.