

H. J. BAILEY & J. PORTEOUS.

Compression-Cocks.

No. 133,558.

Patented Dec. 3, 1872.

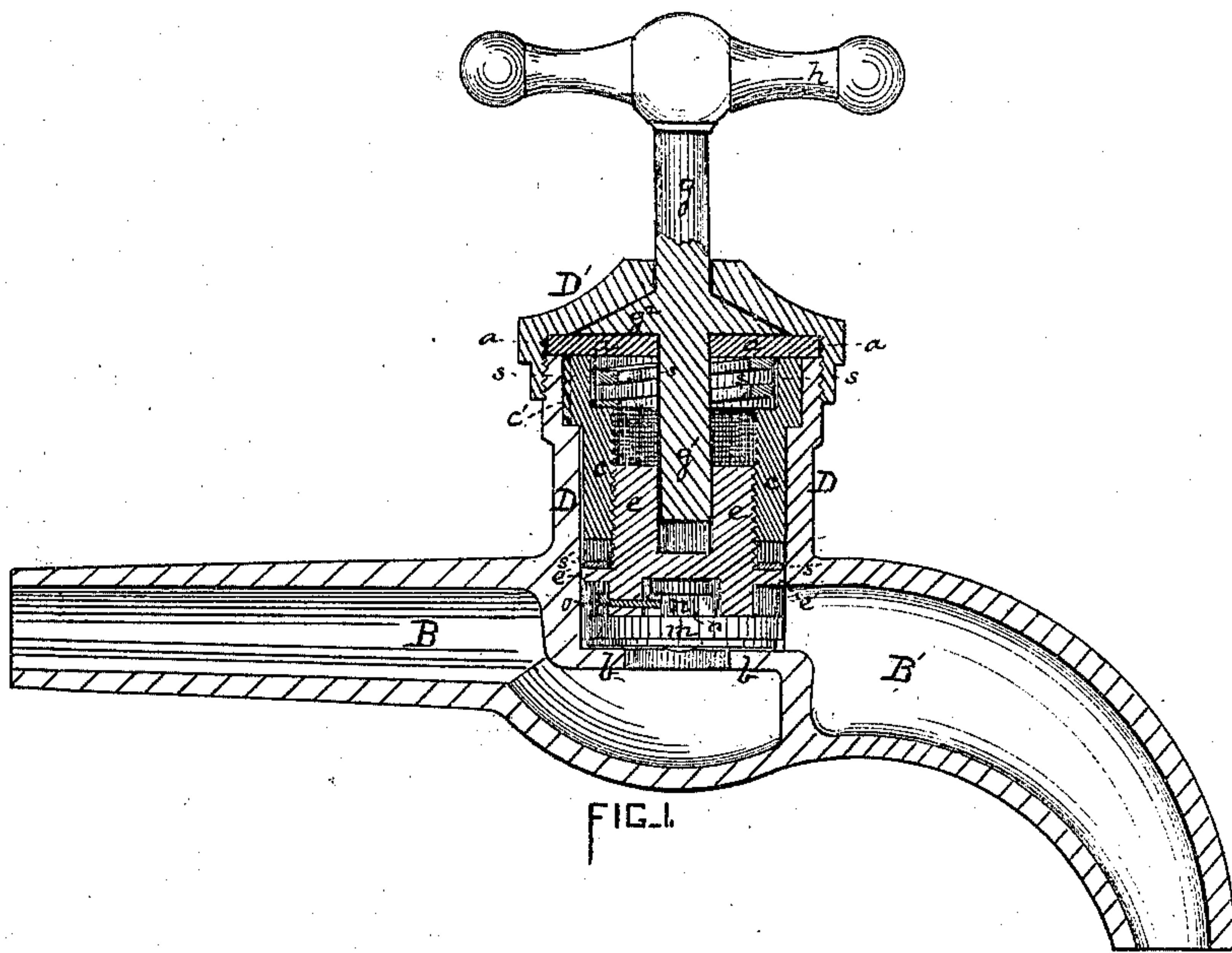


FIG. I.

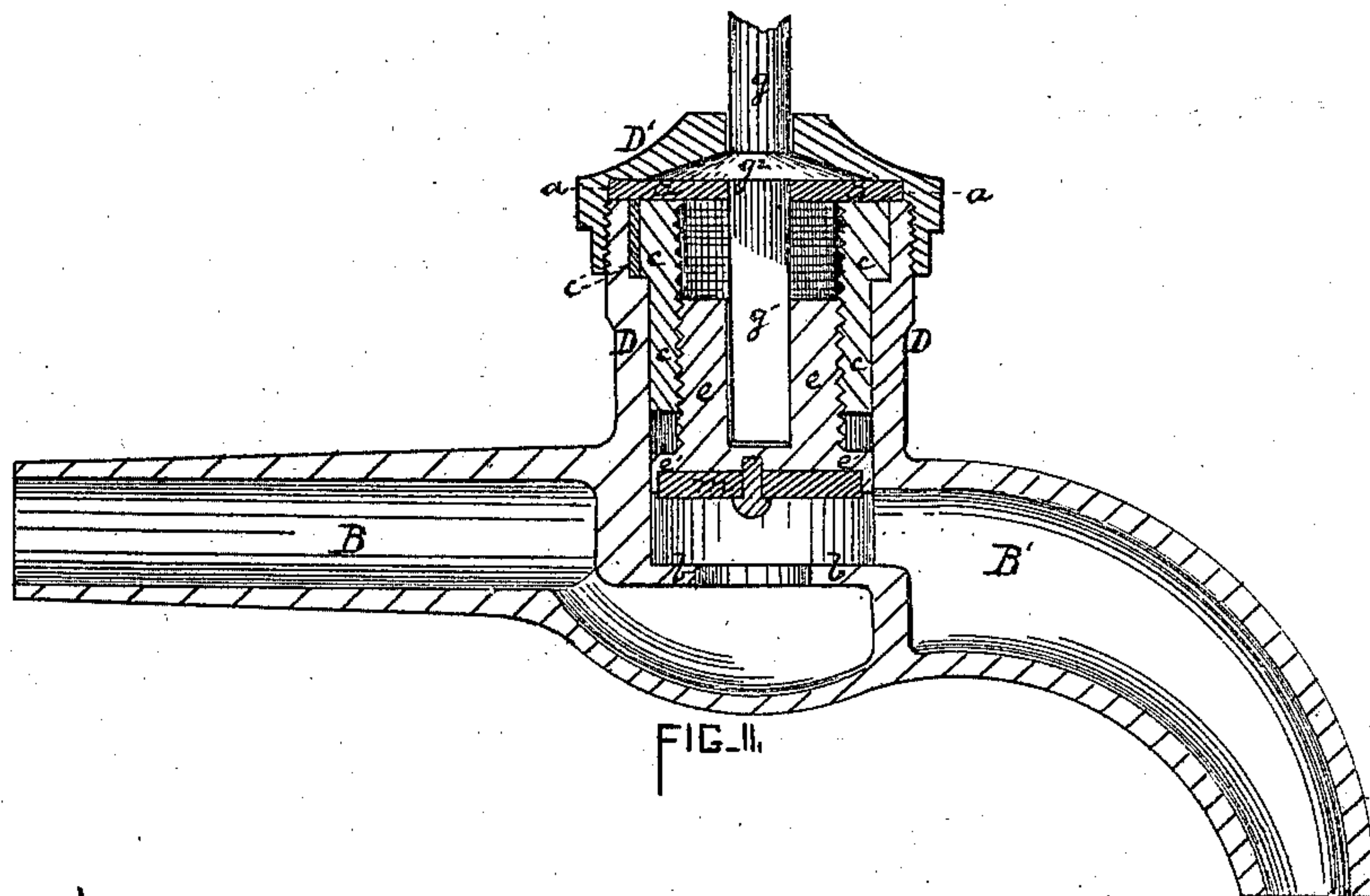


FIG. II.

WITNESSES.

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UNITED STATES PATENT OFFICE.

HENRY J. BAILEY AND JOHN PORTEOUS, OF PITTSBURG, PENNSYLVANIA,
ASSIGNORS TO BAILEY, FARRELL & COMPANY, OF SAME PLACE.

IMPROVEMENT IN COMPRESSION-COCKS.

Specification forming part of Letters Patent No. 133,558, dated December 3, 1872.

To all whom it may concern:

Be it known that we, HENRY J. BAILEY and JOHN PORTEOUS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Compression-Cocks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of a compression-cock illustrative of our improved construction; and Fig. 2, by a like view, shows a portion of the same devices as applied to a cock having a rotating valve.

Like letters of reference indicate like parts in each.

Our invention consists in the features of construction and combination, hereinafter set forth and claimed, whereby we render compression-cocks more economical in construction and efficient in operation.

Heretofore in the manufacture of compression-cocks an internal thread has commonly been cut in the body of the valve-case, to provide for which the body had to be made of greater thickness than would otherwise be required. It had to be thick enough not only for the cutting of the thread, but also to prevent its being bent or bruised in chucking or fastening in the lathe preparatory to the chasing of the thread therein.

We have remedied this defect, as well as otherwise improved the construction of the cock.

To enable others skilled in the art to make and use our improvement, we will proceed to describe its construction and mode of operation, and first with particular reference to Fig. 1.

B B' represent the through-way pipe, with a valve-seat at *b* formed by a diaphragm in the usual way. D is the body of the valve case or chamber, which, as it is not threaded, can, for the reasons already mentioned, be made much lighter or thinner than has heretofore commonly been done, with a consequent saving of metal. The cap D' is screwed on in the usual way. A leather or gum washer, *a*, having a hole for the valve-spindle, is placed on the top of the case D, and held there by the cap D'.

The valve-spindle *g* *g*¹ passes through both the cap D' and washer *a*, and the space between the cap and washer is occupied by a flange, *g*², made on the stem, its upper and lower faces being adapted in shape to the lower and upper faces of the cap and washer, respectively, so that as the washer *a* is pressed up a tight joint may be formed between it and the flange *g*². Inside the body or case D we insert a bush, *c*, internally threaded, and seated by a shoulder, as shown, or in other suitable way. It is prevented from rotating in the case D by a feather and groove or by a key, *c'*, which occupies a half-circle groove in bush and case each. On a shoulder made inside the bush *c* at its upper end we place a spring, *s*, preferably of spiral form, as shown, with its upper end bearing against the washer *a*, so as to keep it pressed up against the flange *g*², as the latter or the washer, or both, may wear away from friction on each other. The lower end *g*¹ of the spindle is square or of other than cylindrical form, and enters a correspondingly-shaped socket in the upper end of the plug *e*. The upper end of this plug is externally threaded so as to screw up and down in the bush *c*. At the base of the screw-thread is a flange, *e'*, packed, if desired, by a gasket, *s*¹, so as, when the plug *e* is screwed up and the valve raised the desired distance, to stop its upward motion and at the same time prevent the flow of the fluid into the space above the plug *e*. The plug at its lower end is bored out so as to receive the headed stem *n* of the disk-valve *m*. A screw or pin, *o*, is inserted through the side of the lower end of the plug *e* so that its inner end shall come under the head of the stem *n*, and thereby secure the valve *m* to the plug in such a way that while the plug rotates in going up and down the valve *m* may be screwed down onto and up off its seat *b* in a vertical line without rotating.

The devices are operated in the usual way by the use of the hand-wheel or T *h*.

In Fig. 2 the devices indicated by the same letters have the same construction and operation as in Fig. 1, except that the valve *m*, instead of being loosely attached to the plug *e* so as to be seated and unseated by moving in a direct line, is rigidly fastened to the plug *e* so as to rotate therewith.

In the construction of the cock, the springs *s*, shown in this figure, may be dispensed with, as also the gasket-packing on the flange *e'*; but the preferable construction we consider to be that shown in Fig. 1.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The bush *c* and washer *a*, with or without the interposed spring, in combination with the spindle *g g*¹, case *D*, and plug *e*, substantially as set forth.

2. The plug *e* having the flange *e'*, in combination with the spindle *g*¹ and bush *c*, substantially as set forth.

3. The bush *c*, in combination with the spring *s*, washer *a*, and collar *g*², substantially as described, with reference to Fig. 1.

4. The loose valve *m*, in combination with the plug *e* having the projecting flange *e'*, substantially as described, with reference to Fig. 2.

In testimony whereof we, the said HENRY J. BAILEY and JOHN PORTEOUS, have hereunto set our hands.

HENRY J. BAILEY.
JOHN PORTEOUS.

Witnesses:

S. SMITH,
J. B. CAMPBELL.