Renard. Perret & Voituret,

Tap Cock.

No. 96,618. Patented Nov. 9. 1869

Fig. 1.

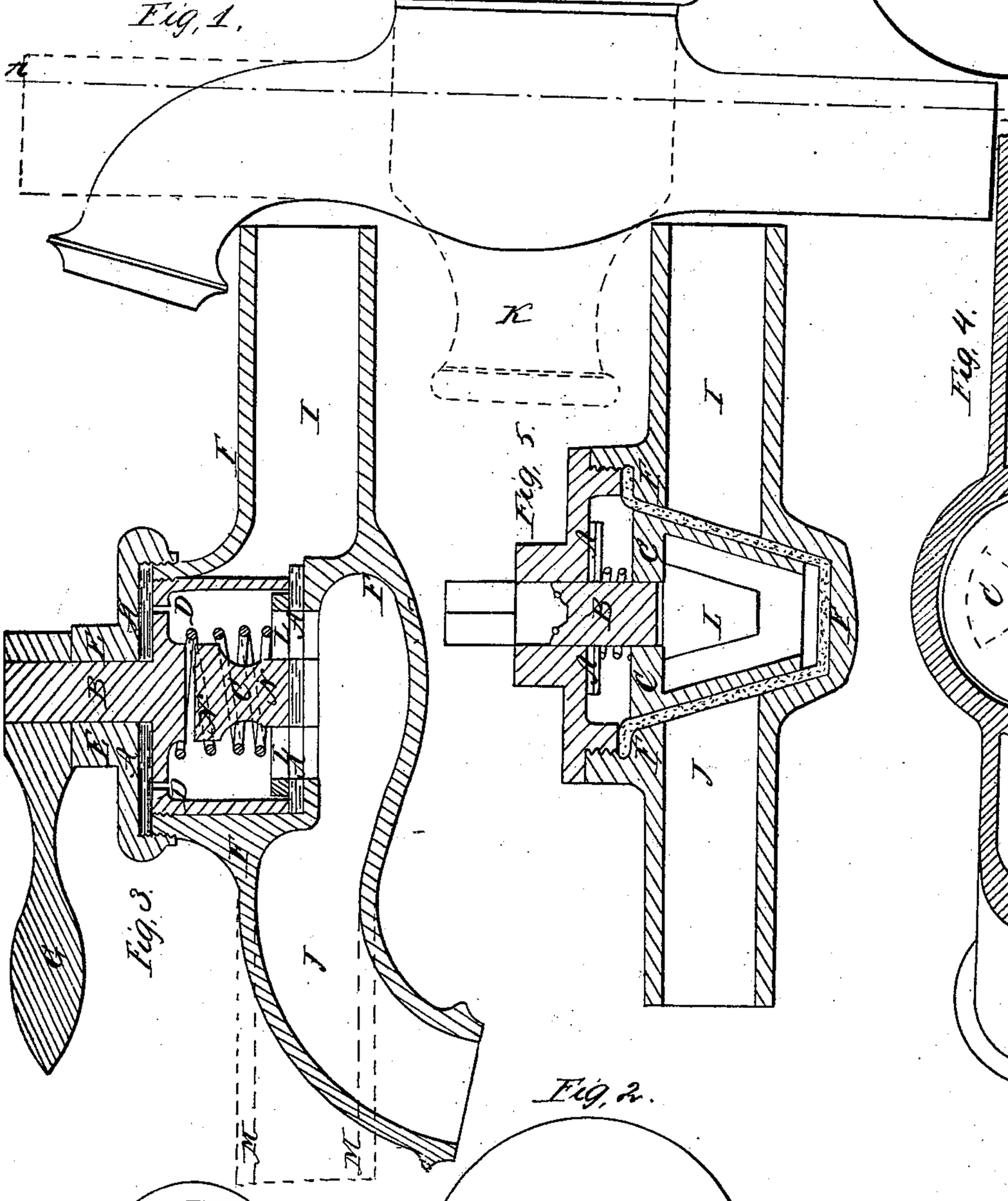


Fig. 3.

Fig. 4.

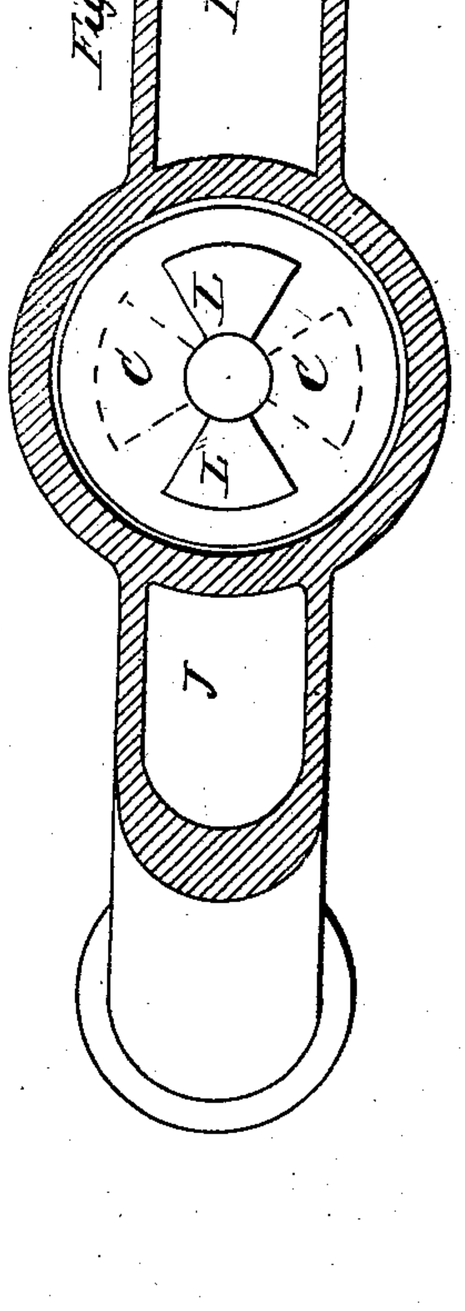


Fig. 5.

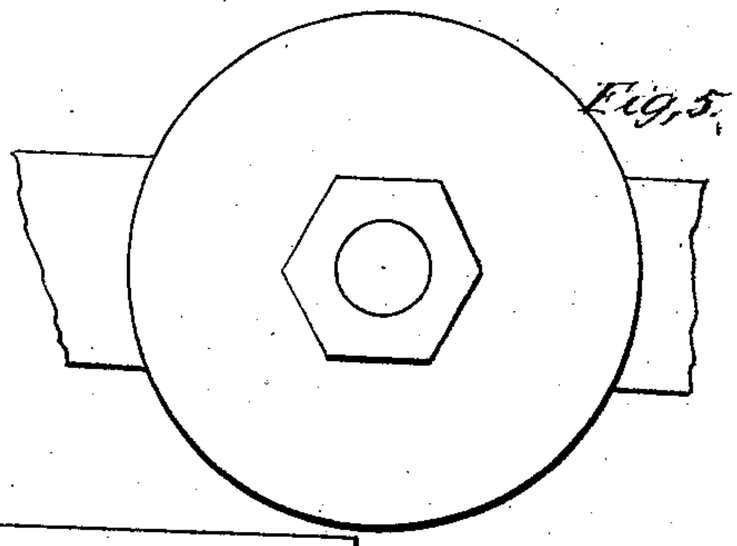
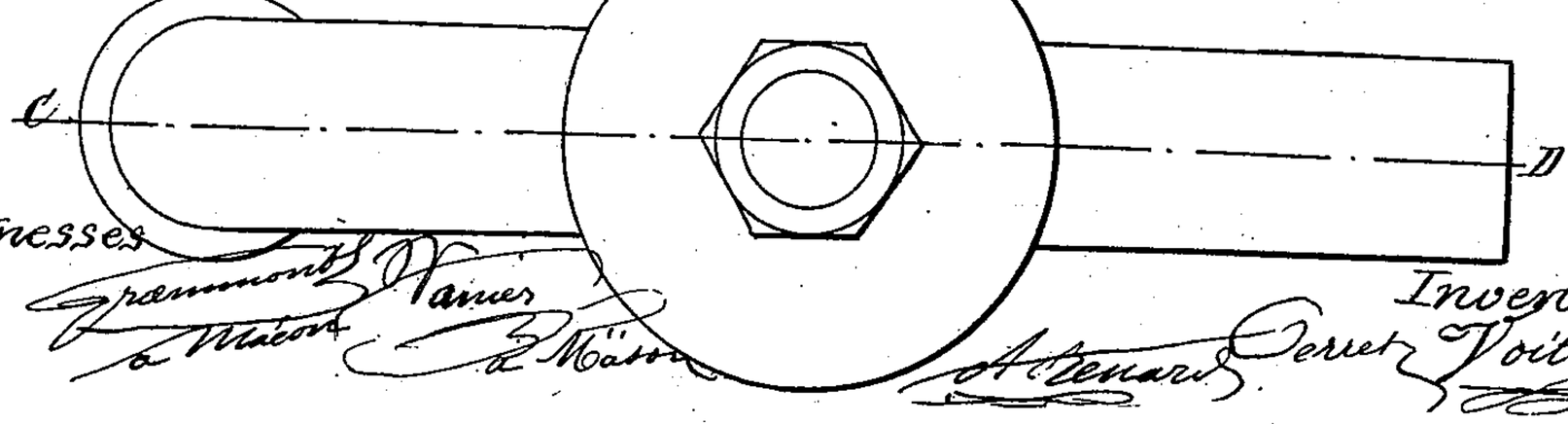


Fig. 2.



Witnesses

Inventors

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UNITED STATES PATENT OFFICE.

CLAUDE RENARD, MICHEL PERRET, AND JULES CÉSAR VOITURET, OF MÂCON, FRANCE.

IMPROVEMENT IN TAP-COCKS.

Specification forming part of Letters Patent No. **96,618**, dated November 9, 1869.

To all whom it may concern:

Be it known that we, CLAUDE RENARD, MICHEL PERRET, and JULES CÉSAR VOITURET, all of Mâcon, Department of the Saone-et-Loire, in the Empire of France, have invented an Improved Construction of Cock or Tap; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our improved cock may be termed an "every-pressure cock." Its exterior may assume any of the usual forms. It may discharge the liquid from beneath or by a bent or a straight spout, as shown on the annexed sheet of drawings. It may also be a three-way cock, be made of any kind of metal, and of all sizes.

The interior arrangement of a cock made according to our invention is shown at Figure 3, E indicating a metal lid or cap, pierced for the passage of the stem or plug which governs the movement, and screwed on the box, either interiorly or exteriorly; A, washer of leather, india-rubber, gutta-percha, or any other malleable and impervious material, seized by the inner or outer screw of the cap, and also permitting the passage of the stem; B, stem or plug governing the movement, and to which is fitted indifferently a key, a handle, or a spanner, G, of any desired form. This stem passes through the metal cap and leather washer, and carries, so as to form one piece with it, an inner disk of metal, coming onto a leather washer situated above it and acting as an obturator, in the manner hereinafter described.

C is a stem or plug independent of the first, but governed by it in the circular movement by the aid of a mortise, which unites them at the point N N. This stem, like the upper one, has a metal disk of one piece with it and bearing upon a second washer, A′, of leather, india-rubber, or analogous material, which washer rests upon another disk, F, supporting the entire arrangement, and forming part of the cock, being cast with or brazed to it. This second leather washer A′ is kept in place and prevented from following the hereinafter-described circular movement by the ring D, or any other means.

H is a helical spring placed between the two metal disks, and tending to press them on the two leather washers above and below them.

The disks C and F and washer A′ are pierced, Figs. 3 and 4, with two openings, L, passing through all three in a direct line. These openings may, according to the description of cock, be four in number, or there may be but a single one. It is only requisite that the disk C should be able to close them, as will now be explained. The water, arriving by the barrel I, fills the box or chamber of the cock, and by its pressure pushes the two metal disks against the two leather washers, perfectly closing the chamber top and bottom. The helical spring is intended to assist this water-power, should its pressure be insufficient, and it may therefore be used or dispensed with, according to requirement. The liquid being introduced into the box by working the key which actuates the stems or plugs B C, the lower disk turns horizontally on its axis, its openings are brought into line with those of the washer A′ and of the immovable disk F, and the water, continuing its course, passes into the barrel J, and issues therefrom, or by M M, or as at K, Fig. 1.

Such is the system, which by the soft friction of the two disks on the two leather washers prevents any leakage of the liquid, and by the progressive closing of the openings avoids all shock. This arrangement may, if desired, be provided with a stop, either on the outside or the inside.

The disk C may without in any way departing from the system above described assume another shape, permitting it to act as an obturator, arresting not only the entrance but also the exit of the liquid. This disk will then assume a hollow conical form. (See C, Fig. 5.) It bears on a leather washer, A′, having the same shape, and is pierced with holes corresponding with those of this washer. It carries an adherent or non-adherent stem, governed by the upper stem and a pressure-spring, as in the preceding case. The working is the same: The openings of the cone are brought by a horizontal movement into a direct line with

those of the washer, and the liquid enters on one side to run off at the other, the liquid pressing on the cone as on the flat disk.

The barrels of this cock may be straight, curved, or of any of the ordinary forms.

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

The combination and arrangement of the disks and washers within the chamber of the cock so that on the chamber filling with liquid the pressure of this liquid pushes the disks against the washers, closing the chamber top and bottom and forming a perfectly water-tight cock, substantially as described.

CL. RENARD.
PERRET.
VOITURET.

Witnesses:
GRAMMONT, *à Mâcon*,
VANIER, *à Mâcon*.