

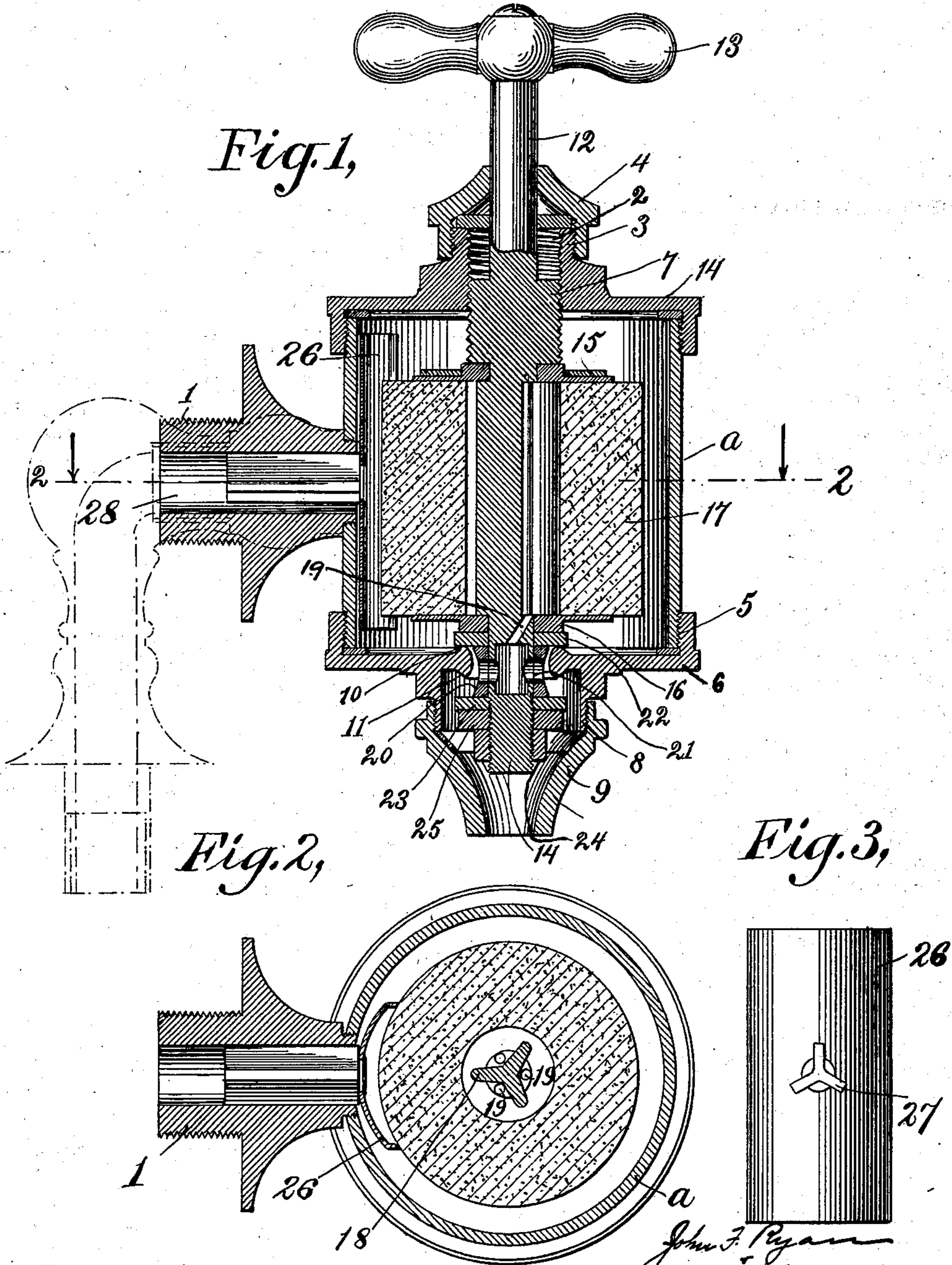
No. 701,943.

Patented June 10, 1902.

J. F. RYAN & W. McEWAN.  
FILTER FAUCET.

(Application filed June 26, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## FILTER-FAUCET.

SPECIFICATION forming part of Letters Patent No. 701,943, dated June 10, 1902.

Application filed June 26, 1901. Serial No. 66,052. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN F. RYAN, residing at Brooklyn, and WILLIAM MCEWAN, residing at Winfield, State of New York, citizens of the United States, have invented certain new and useful Improvements in Compression Filter-Faucets with Automatic Cleaners, of which the following is a specification.

10 Our invention relates to compression filter-faucets with automatically-actuated cleaners.

One of the devices in which our invention is embodied is shown in the accompanying drawings.

15 In the drawings, Figure I is a vertical transverse section through the filter. Fig. II is a horizontal section through the filter on the line 2 2 of Fig. I, and Fig. III is a rear view of the automatic cleaner.

20 The principal object of our invention is to produce a filter-faucet which will deliver either filtered or unfiltered water in a regulable quantity. The advantages of such a structure are many, the principal of which is that when the faucet is adapted to deliver 25 either filtered or unfiltered water but a single fixture is necessary, and, being at a constant normal height, the pail or other receptacle may readily be placed beneath it, whereas if the filter be made removable and be not adapted for delivering unfiltered water it would be necessary to change the position of the faucet in order to accommodate the filter to the pail or other receptacle placed in the sink.

35 A further object of our invention is to produce a filter-faucet which may be readily substituted for the ordinary faucets now in use, so that no change in piping will be necessary or desirable.

40 In the drawings, *a* represents a suitable filter-casing provided with a thread 1, suitable for connecting the same with any desired service-pipe. The faucet shown in the drawings is adapted to be secured to a sink; but 45 if it be desired to attach the faucet to a basin the inlet-pipe may be constructed as shown in the dotted line. The faucet is provided at 2 with a left thread adapted to receive a threaded spindle and at 3 with a thread, over 50 which a bonnet 4 is adapted to fit. The cas-

ing is provided at 5 with a thread to receive a cap 6 and with a non-circular portion, preferably a hexagon, adapted to be engaged by a wrench or spanner for the purpose of screwing the parts together. The cap 6 engages on 55 the outside of the casing and is provided with a nipple 8, adapted to receive a thimble 9. The cap 6 is provided with an upper seat 10 and a lower seat 11 to cooperate with suitable valve faces or packing, as hereinafter described. The bonnet 4 is bored to receive a stem 12, provided with a handle 13 for rotating the same. The stem 12 carries a threaded spindle 14, provided with a left thread to engage in the thread 2 of the casing *a*. The 65 spindle 14 carries two heads or flanges 15 16, between which is carried a filtering element 17, preferably a cylinder of kieselguhr or stone. The spindle 14 is provided with wings 18, forming between them ducts or channels, 70 which lead to passages 19 in a solid portion of the spindle 14. These passages lead to lateral apertures 21 in a ferrule 20, from which the water is delivered laterally into the thimble 9. The lower end of the spindle is provided with a washer 22, adapted to cooperate 75 with the valve-seat 10, and with a washer 23, adapted to cooperate with the valve-seat 11. These washers are spaced apart by the ferrule 20, and the washers and ferrule are held in 80 place by a nut 24, screw-threaded on the lower end of the spindle 14 and provided with a lateral flange 25.

The device is provided with a scraper or cleaner. This scraper or cleaner is shown in 85 the drawings as a scraper blade or blades 26, carried by a stem 27, which stem enters the inlet-aperture 28 of the faucet. The scraper is held firmly against the stone by the pressure of the water. Heretofore it has been 90 customary to employ spring-pressure to force the scrapers or cleaners against the sides of the stone. It has been found, however, in practice that owing to the wearing away of the stone and from other causes the spring- 95 actuated scrapers are not commercially successful in use. This difficulty, however, is obviated by our invention, as the water-pressure may be utilized regardless of the size of the stone.

The operation of the structure is as follows: Water entering at 28 will force the cleaner or scraper-blade 26 firmly against the stone and will pass through the cylindrical stone into the passage into the interior thereof and will pass through the ducts 19 and the passages 21 of the ferrule into the thimble 9 and thence out of the filter. The water will thus be filtered. This will occur when the filter is in position shown in the drawings. When it is desired to deliver unfiltered water, the handle 13 may be rotated, thereby rotating the spindle and raising the stone and other parts carried by the spindle and lifting the washer 22 clear of the valve-seat 10 and bringing the washer 23 firmly into contact with the valve-seat 11. The water will now flow freely around the stone, out through the lower end of the spindle 14, without passing through the stone.

It will be understood that in this specification we have used the term "washer" to designate the portion of the structure indicated in the drawings by the numerals 22 and 23. It will be understood, however, that in using the term "washers" we mean to include therein any other form of construction—such as a flange, for instance—which within the limitations imposed by the state of the art are the equivalents of washers.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a filtering-faucet, the combination of a filtering medium, a rotary spindle and a plurality of valves or washers carried by the rotary spindle and arranged on opposite sides of an annular diaphragm provided with valve-seats on opposite sides thereof.

2. In a filtering-faucet, the combination of

inlet and delivery ports, a filtering medium and a spindle carrying the said filtering medium and provided with a plurality of washers and valve-seats intervening between the washers.

3. In a filtering-faucet, the combination of a cylindrical filtering medium, a winged spindle passing therethrough and provided with apertures for the passage of water from the interior of the filtering medium.

4. In a filter the combination of a spindle provided with a plurality of washers, valve-seats intervening between the washers and a ferrule adapted to space the said washers apart.

5. In a filter the combination of a filtering medium, a spindle carrying the said filtering medium, a plurality of washers carried by the spindle and valve-seats intervening between the said washers.

6. In a filter the combination of a filtering medium, a plurality of valve-seats and a plurality of washers, the said valve-seats intervening between said washers and a ferrule also intervening between the said washers.

7. In a filter-faucet the combination of a hollow filtering medium, a spindle carrying the said filtering medium, a plurality of washers or valves carried by the said spindle, valve-seats intervening between the said washers and openings adapted to accommodate the flow of water, irrespective of the position of the washers with respect to their valve-seats.

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