

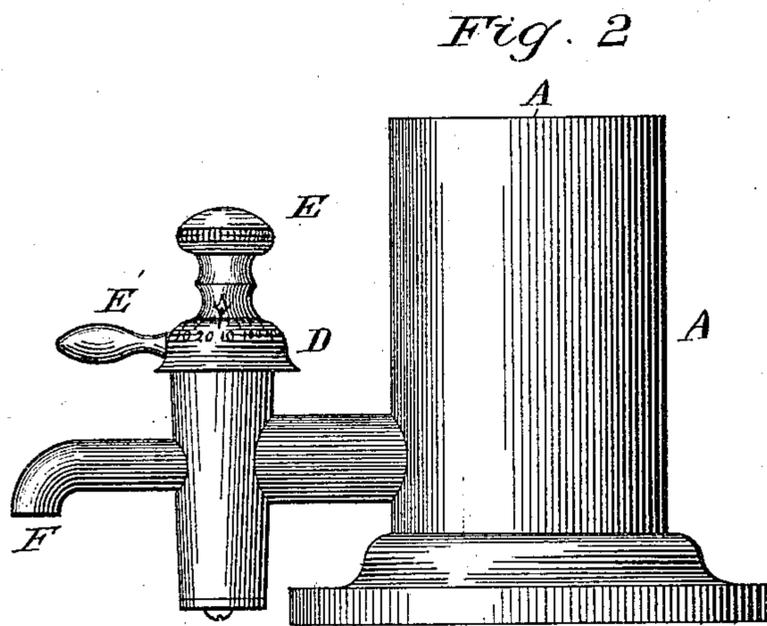
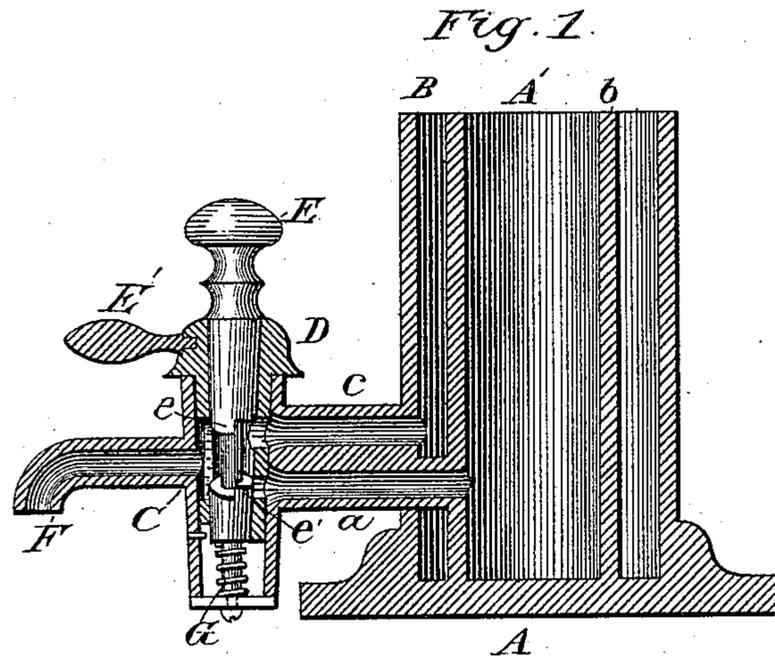
(No Model.)

J. BYRNE.

COCK AND TANK FOR DRAWING FLUIDS OF VARYING TEMPERATURES.

No. 292,094.

Patented Jan. 15, 1884.



Witnesses:  
*John D. Byrne*  
*James Hayer*

Inventor:  
*John Byrne*

# UNITED STATES PATENT OFFICE.

JOHN BYRNE, OF CLEVELAND, OHIO.

COCK AND TANK FOR DRAWING FLUIDS OF VARYING TEMPERATURES.

SPECIFICATION forming part of Letters Patent No. 292,094, dated January 15, 1884.

Application filed January 22, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BYRNE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cocks and Tanks for Drawing Fluids of Varying Temperatures, of which the following is a description.

This invention relates to a class of devices—such as coffee-urns or dispensing-fountains—provided with faucets for drawing out the contents; and it has for its object to provide means for holding two fluids—such as coffee and water—in separate compartments of the same urn, and means for drawing the two fluids to mix in such proportions in the act of running as will produce a single fluid mixture of a given temperature.

To this end my invention consists in an urn or tank divided into two compartments, and a faucet having a single outlet connected with both compartments, and in means for regulating and gaging the flow of fluid from one compartment while it is mixing with the fluid from the other compartment, as hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section, part in elevation, of a dispensing-fountain according to my invention; and Fig. 2 is a side elevation of the same.

This invention is based on the hypothesis that two fluids of different temperatures will, when mixed, assume a mean temperature between the two having a fixed ratio with, if not directly proportional to, the quantities of the different fluids mixed, and that a fluid will discharge from two different orifices in the same tank in quantities proportional to the areas of the said orifices. In accordance with these principles I provide a fountain, A, with an annular partition, *b*, dividing the fountain into two compartments, A' and B. With these compartments I connect a faucet having a single outlet, F, and two inlets, *a* and *c*. These inlets to the faucet are outlets to the compartments A' and B, respectively.

D represents a cock having two apertures on one side, registering with the two passages *a* and *c* when suitably turned. It also

has an aperture registering with the outlet F at the same time, and its two apertures on one side connect through its center with the one aperture on the other side, so that whenever the cock is turned to register with passages *a* and *c* the flow therefrom will be discharged through the single outlet F.

To graduate the proportion of discharge from the two passages, I provide within the cock D a stopper, E, reduced in size along its central portion, and shaped with opposite spiral shoulders *e* and *e'*. The conical surface of this stopper is shaped to fit the interior of the cock, and the relation of the shoulders *e* and *e'* to each other and to passages *c* and *a* is such that when shoulder *e'* nearly stops the passage *a* the shoulder *e* will leave passage *c* nearly wide open, and vice versa. The two extremes being connected by spirals, a gradation is produced which gives all possible changes. To indicate the ratio between these openings, I provide a graduated scale on the cock D, to be read relative to a line on the stopper E. The cock is provided with a handle, E', by which it may be turned, and the head of the stopper may be milled or roughened, to be more easily held in turning it. Suppose the compartment B to be supplied with water kept boiling—that is, at 212° Fahrenheit—and the compartment A to be supplied with coffee at 112° Fahrenheit. Now, by noting the temperature of the mixture drawn with the stopper at the various markings of the scale, said scale may be marked to degrees of heat corresponding thereto and afterward set accordingly.

Other fluids may be drawn in the same manner, and the scale may be marked to indicate the quantitative proportion of the mixture, instead of its degree of heat.

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

1. The combination, with a faucet-body having one outlet and two inlet passages, and a tubular stop-cock constructed to connect or to stop all of said passages, of a stopper fitted within said stop-cock, said stopper having a reduced body and oppositely-inclined spiral shoulders at the ends of said reduced body, substantially as and for the purpose specified.

2. The combination, with a faucet-body having one outlet and two inlet passages, and a tubular stop-cock constructed to connect or to stop all of said passages, of a stopper fitted  
5 into said stop-cock, and constructed to increase the aperture of one inlet and to decrease the aperture of the other inlet by the same act of rotating in one direction within said stop-cock, and a graduated dial and in-

dex on said cock and stopper, substantially as 10 and for the purpose specified.

This specification signed and witnessed this 1st day of November, 1882.

JOHN BYRNE.

Witnesses:

JNO. T. BOURKE,  
GEO. C. TRACY.