B. Eakins,

Valve Cock,

No. 10,733, Patented Apr. 4, 1854.

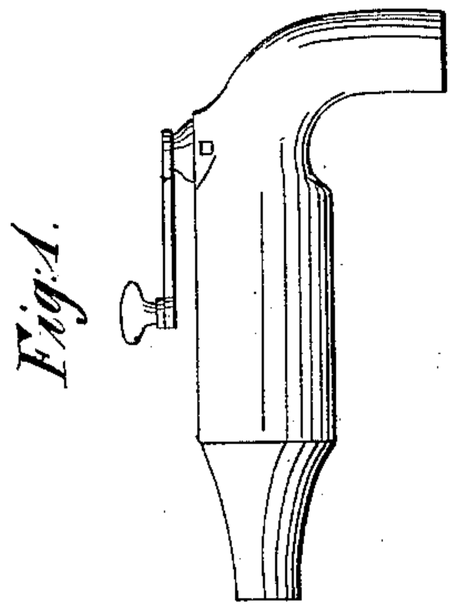

Fig. 1.

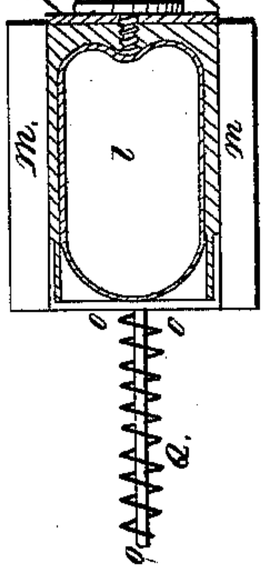

Fig. 2

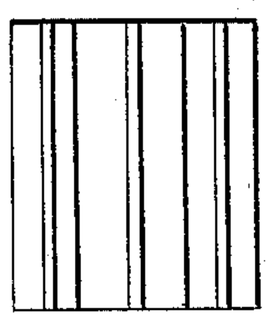

Fig. 3.

Fig. 4.

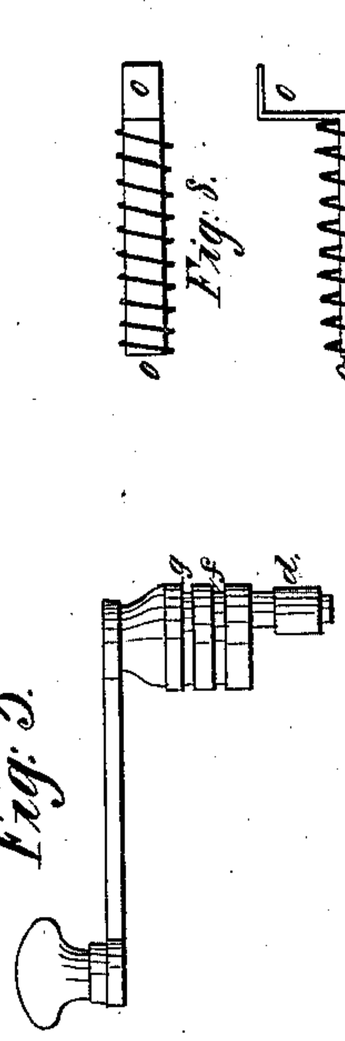

Fig. 5.

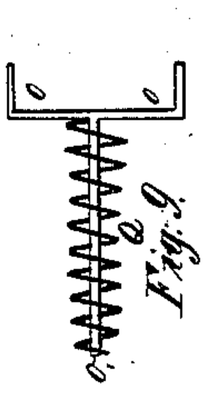

Fig. 6.

Fig. 8

UNITED STATES PATENT OFFICE.

BENJAMIN EAKINS, OF SPRING GARDEN, PENNSYLVANIA.

VALVE-COCK.

Specification of Letters Patent No. 10,733, dated April 4, 1854.

To all whom it may concern:

Be it known that I, BENJAMIN EAKINS, of the district of Spring Garden, in the county of Philadelphia and State of Pennsylvania, have invented a new Hydrant-Cock; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to annexed drawings, making a part of this specification, in which the same letters refer to like parts.

Figure 1 is a half sized drawing of cock as it appears finished ready for soldering into the pipe.

Fig. 2 is a longitudinal section. *a*, *a*, *a*, *a*, is the outside, or case; *b*, the valve; *r* is a piece of metal screwed into the end of the valve upon which strikes roller *d* as the handle *e* is moved around, thereby forcing back valve *b* against the pressure of the water and spiral spring *q* and opening a space between the circular piece of leather or india rubber *p*, *p*, and rim of metal *s*, *s*, for the water to pass out at *v*, *v*. *o* is a blade shaped piece of metal somewhat in form of letter T upon which is a spiral spring to assist the water (when the head is not strong,) to keep the valve closed. It works through a mortise in a piece of metal *i* to keep the valve from turning. *j*, *j*, is a separate piece and is soldered on to the main part at joint *k*, *k*, which will render the cock more convenient to repair, or replace, by unsoldering it at the joint instead of cutting away the pipe as is now done with the one in general use.

Fig. 3 is an end view of the valve. *m*, *m*, *m*, *m*, are flanges, which work against the inside of main part *a*, *a*, *a*, *a*. *n*, *n*, *n*, *n*, are the spaces through which the water passes around to the outlet of the valve. *l*, *l*, is the end of an india rubber bladder, inflated, for the purpose of preventing the jar when the valve is suddenly closed, which is so likely to burst the pipes. Water being incompressible, and when a column of it is moving through a pipe, and suddenly checked by closing the valve, it strikes with almost as much force as would a solid column, of the same specific gravity and length, moving with the same rapidity, and stopped by a material that was not elastic. A succession of such blows will in a short time burst pipes that would otherwise last for years. To prevent the ill effects of which I have formed an air chamber by making an india rubber bag of sufficient thickness to contain air and of the proper size to fill the cavity in valve as seen in Fig. 7, marked *l*. The column will then have its force broken by striking against an air cushion. *o*, *o*, is the T shaped piece of metal for the purpose of keeping in its place the air bladder, for carrying the spiral spring, and to prevent the valve turning.

Fig. 4 is a plan view of *r* in Fig. 2.

Fig. 5 is the handle and plug. *q* is a groove for the point of a screw to work in to keep the plug in its place. *f* is a groove to be filled with an india rubber packing, to prevent leaking and to make the handle work with more uniformity. *d*, is a roller to prevent friction.

Fig. 6 is a side view of valve.

Fig. 7 is a longitudinal section of valve with the piece *r* screwed in which holds down the circular piece of leather or india rubber *p*, *p*. *m*, *m*, are the sides of flanges. *l*, is the india rubber air chamber. *o*, *o*, *o* is the T shaped piece with spiral spring on it. And Figs. 8 and 9 are different views of the same, one being a side view, the other a plan view; they are marked *o* in Fig. 2, *o o* in Fig. 3, and *o o o* in Fig. 7, and are intended for the purposes therein described.

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

The peculiar construction of the valve with the manner herein described and represented of opening and closing the same.

B. EAKINS.

Witnesses:

JOHN F. HAGNER,

JEFFERSON S. HAGNER.