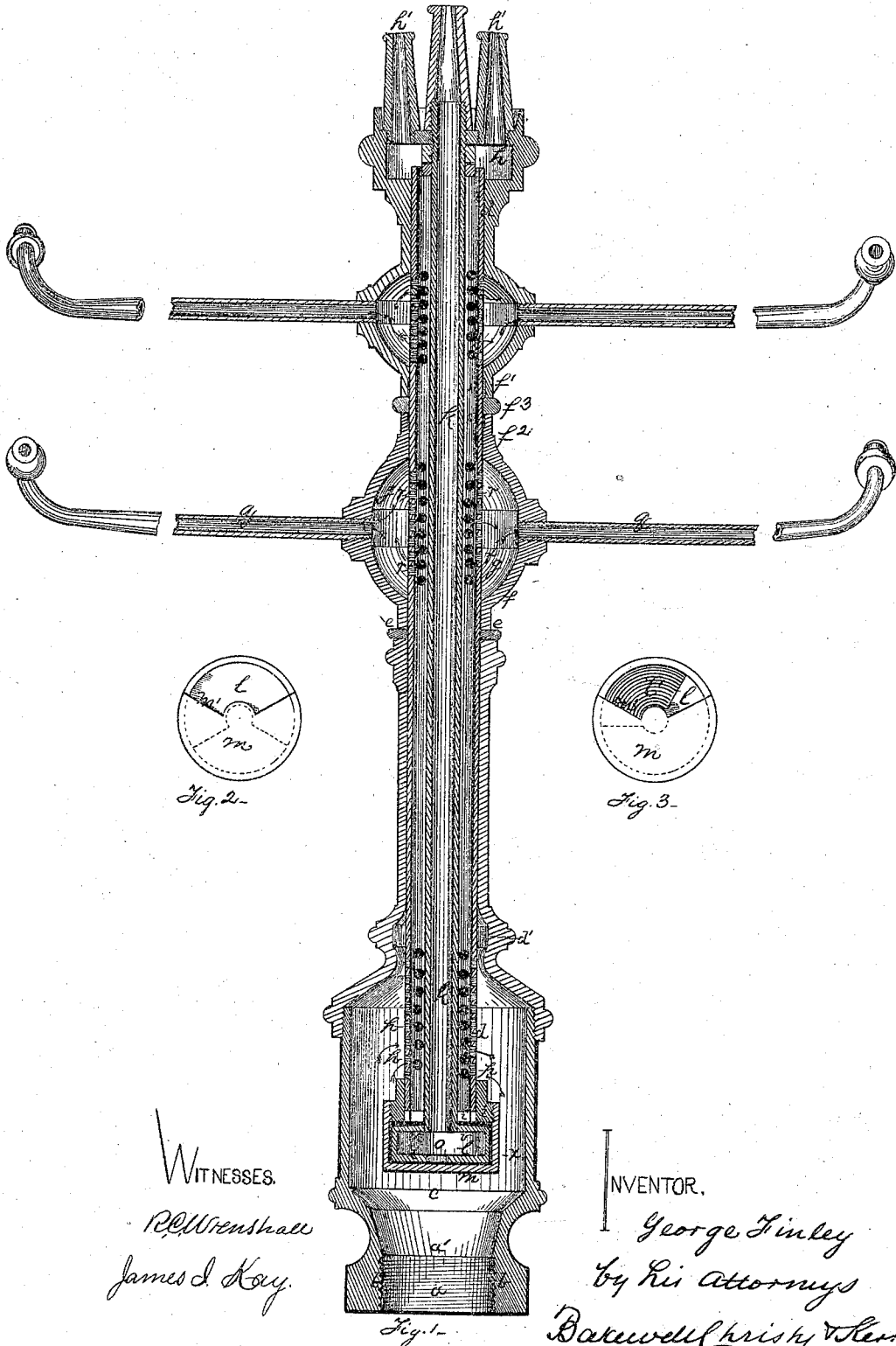


G. FINLEY.

Improvement in Fountains.

No. 130,798.

Patented Aug. 27, 1872.



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# UNITED STATES PATENT OFFICE.

GEORGE FINLEY, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN FOUNTAINS.

Specification forming part of Letters Patent No. 130,798, dated August 27, 1872.

### SPECIFICATION.

*To all whom it may concern:*

Be it known that I, GEORGE FINLEY, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Fountains; 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 sectional view of my improved fountain. Fig. 2 is a lower end view of the cap on the lower end of the stem, showing the water-inlet port closed by the rotating disk above; and Fig. 3, by a like view, shows the same port partly open.

Like letters of reference indicate like parts in each.

My invention consists, in the construction of an ornamental revolving fountain, of the features and parts hereinafter claimed.

In the drawing, *a* is the supply or water pipe, to which the stationary stem of the fountain is attached by the joint *b*. Above the joint is a large chamber, *c*, in the upper end of which the stationary center pipe or hollow stem *d* is fastened, as at *d'*. The lower end of the stem *d* extends downward nearly to the bottom of the chamber *c*, and stands directly in front of the inlet *a'*. The upper end of the stem *d* extends upward nearly to the top of the fountain, and serves as a center pin or stem, upon which the working or revolving parts turn. Resting upon the shoulder *e* and enveloping the stem *d* is an outer shell, *f*, having two chambers, *g*, and a jet-cap, *h*. Running downward from the center of the cap *h* through the entire length of the stem *d*, and projecting through the cap *i*, which closes the lower end of the stem *d*, is a tube or pipe, *k*, into which water is admitted intermittingly by a circular rotating valve, *x*, consisting of the disk *l*, having a port, *v*, rotating over the port *m'* in the cap *m*, which screws onto the cap *i* on the lower end of the stem *d*. The tube *k* projects a little below the cap *i* so as to allow it a slight vertical play or movement, which is limited in its upward motion by the valve-box *o* and in its downward motion by the shoulder *e*, which supports the entire moving portion of the fountain. In the lower end of the stem *d*, inside of the chamber *c*, is a series of inlet-holes or openings, *p*,

through which the water passes from the chamber *c* into the stem *d*, from which it passes, through the openings *r*, into the chambers *g g*. Extending out from four or more sides of the chambers *g g* is a series of jet-pipes or arms, *q*, the ends of which are bent around so as to turn the jet of water at right angles to the pipe *q*. The upper end of the stem *d* terminates at the jet-cap *h* so as to open into the jet-stems *h'*. The outer shell *f* is divided into two sections, *f<sup>1</sup> f<sup>2</sup>*, each of which contains one of the chambers *g*, and which are separated from each other by the nut or collar *f<sup>3</sup>*. When the fountain is in operation these sections are rotated in opposite directions by the reaction of the water passing from the jet-stems *q*, the bent ends of which are turned in the direction opposite to the direction of the rotation of the section. The rotation of the upper section *f<sup>1</sup>* causes the rotation in like manner of the cap *h* and tube *k*, thereby operating the valve *x*. The rotation of the cap *h* causes the jets of water from the stems *h'* to cross each other and form a figure like the figure 8, presenting a very beautiful and ornamental appearance.

The operation is as follows: Water is admitted from the supply-pipe *a* into the chamber *c*, and from thence passes, as indicated by arrows, through the openings *p* into the center stem *d*, where a portion ascends directly to and out of the jet-stems *h'*, while the balance passes out through the openings *r* into the chambers *g g*, and from thence into and out of the jet-arms *q*, and by its reaction causes the rotation of the sections *f<sup>1</sup> f<sup>2</sup>* in opposite directions. As before described, the rotation of the section *f<sup>1</sup>* causes the operation of the valve *x*, which admits the water intermittingly into the pipe *k*, which being in a direct line from the supply-pipe *a*, the water passes directly through without much friction, and, therefore, rises higher above the pipe *k* than the jets which pass through the jet-pipes *h'*. By reason of the action of the valve *x* admitting the water into the tube *k* intermittingly the center jet of water rises and falls by a pulsating motion. The upward pressure of the water against the valve-box *o*, operating against the lower and outer surface or disk *l* when the valve is closed, and against the inner and upper surface or disk *v* when it is open, raises the valve-box, and with it the shell *f*, until the upper disk *v* comes

in contact with the cap *i* a slight distance, just sufficient to raise the shell *f* from the shoulder *e*. The effect of this is to reduce the friction of the working parts by transferring it from between the shoulder *e* and the lower end of the shell *f* to the wearing-surface of the adjacent faces of the cap *i* and valve-box *o*, the ascending column of water serving to support almost the entire weight of the working parts.

By this application of the upward pressure of the column of inflowing water I am enabled to make a great reduction in the frictional wear of the working or rotating parts, and thereby overcome, in a great degree, one of the chief objections to rotating fountains.

The lower end of the center stem, perforated at *p*, serves as a strainer to prevent the passage of any obstructing or clogging matter into the fountain, and for this purpose the perforations *p* should be as small or smaller than openings *r r*.

The advantages of this fountain are its simplicity of construction, the combination in one stem of devices for producing both stationary and rotating jets of water, and the ease and perfection of its operation.

The jet-pipes *q q* are fastened with a screw or a ball-and-socket joint, so that they may be turned in any direction, and many striking

and beautiful effects may be produced by varying their operations. Their numbers may be increased or lessened; and the same is the case in reference to the jets in the cap *h*.

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

1. In a rotating fountain, the stationary center pipe or hollow stem *d*, having perforations in its lower end, in combination with the water-chamber *c*, chambers *g g*, and oppositely-revolving jets *q q*, substantially as described.

2. The pipe *k*, having an exposed surface or disk at its lower end, extending transversely across the mouth of the inlet-pipe, so that the upward pressure of the inflowing stream of water shall be exerted against it, substantially as described, in combination with the rotating shell or shells *f<sup>1</sup> f<sup>2</sup>*, for the purposes set forth.

3. The hollow stem *d*, having a port, *m'*, in its lower cap *m*, in combination with the pipe *k*, having a disk, *l*, and port *l'* on its lower end, relatively arranged and operating substantially as set forth.

In testimony whereof I, the said GEORGE FINLEY, have hereunto set my hand.

GEO. FINLEY.

Witnesses:

A. S. NICHOLSON,  
T. B. KERR.