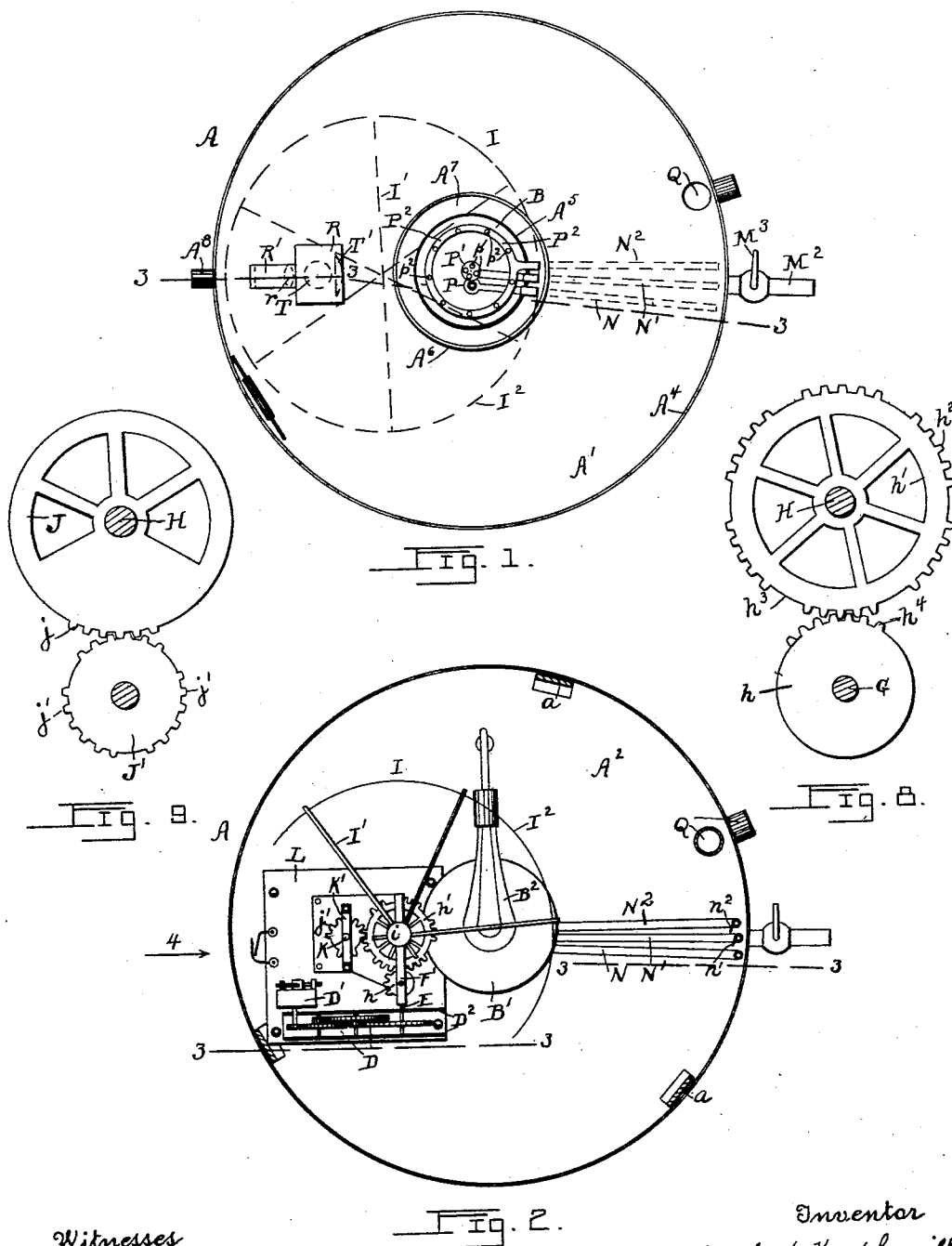


2 Sheets—Sheet 1.

No. 586,310.

Patented July 13, 1897.



W. M. Hale.
C. G. Bassler

Inventor
Frank H. Humphreville

My Attorney
Hm. R. Gerhardt

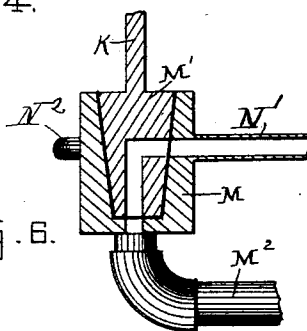
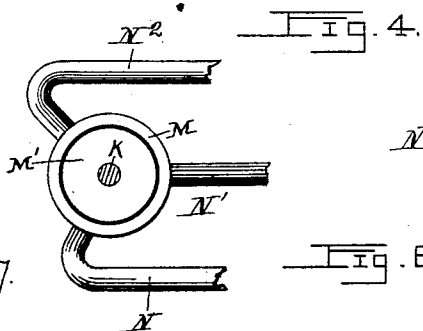
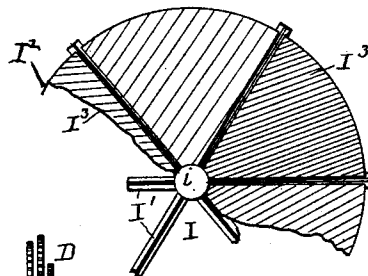
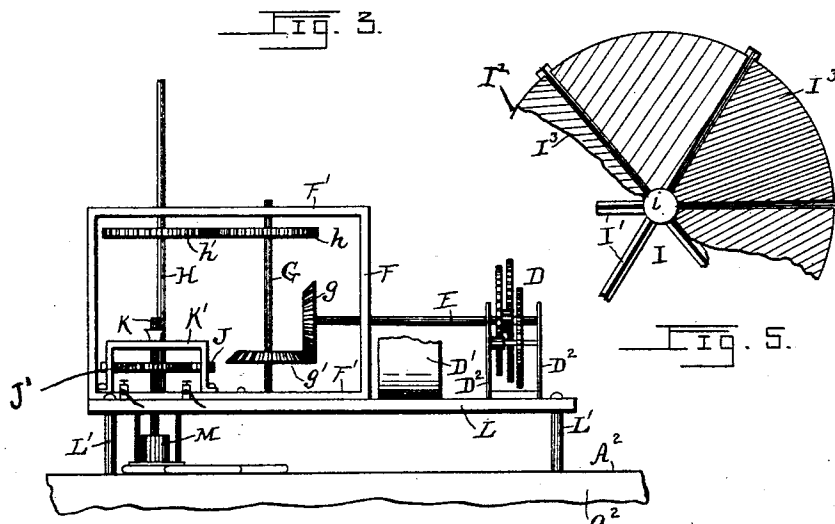
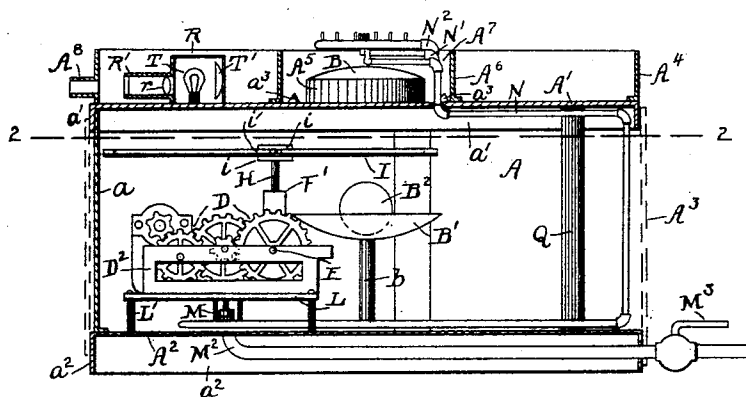
(No Model.)

2 Sheets—Sheet 2.

F. H. HUMPHREVILLE.
LUMINOUS FOUNTAIN.

No. 586,310.

Patented July 13, 1897.



Witnesses

W. M. Hall.
C. G. Basler.

Inventor

Frank H. Humphreville

By Attorney

Wm. R. Gerhard

UNITED STATES PATENT OFFICE.

FRANK H. HUMPHREVILLE, OF LANCASTER, PENNSYLVANIA.

LUMINOUS FOUNTAIN.

SPECIFICATION forming part of Letters Patent No. 586,310, dated July 13, 1897.

Application filed July 30, 1895. Serial No. 557,601. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. HUMPHREVILLE, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Luminous Fountains, of which the following is a specification.

This invention relates to improvements in the illumination of fountains; and the objects of the invention are, first, to automatically change the color of the rays of light illuminating the fountain; second, to automatically change the jets thrown by the fountain; third, to automatically change the jets thrown by the fountain relative to predetermined changes in the color of the illuminating-light, and, fourth, to illuminate the overflow from the fountain.

The invention consists in the construction and combination of the parts by which the fountain is illuminated.

The invention consists also in providing means for automatically changing the jets of water.

The invention consists, further, in a construction whereby the changing of the jets is effected relative to the changes in the colors of the light illuminating the fountain.

The invention consists, finally, in the construction and combination of various details hereinafter fully described, and then pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a top plan view of a fountain embodying my invention. Fig. 2 is a top plan view of the operating mechanism, being a horizontal section on broken line 2 2 of Fig. 3, part of the frame carrying the colored glass being cut away. Fig. 3 is a vertical section on broken line 3 3, Figs. 1 and 2. Fig. 4 is a side view of the operating mechanism seen from the direction of arrow 4, Fig. 2. Fig. 5 is a top view of a portion of the frame carrying the colored glass, sectors of colored glass being shown in place thereon. Fig. 6 is an enlarged vertical section of the multiple-way cock, and Fig. 7 a top view thereof. Fig. 8 is an enlarged top view of the gear through which the colored-glass frame is actuated, and Fig. 9 a similar view of the gear through which the multiple-way cock is actuated.

Similar letters indicate like parts throughout the several views.

In the drawings illustrating my invention the entire mechanism is shown as supported by a portable case A; but where larger fountains are to be used the parts may be firmly built into a permanent structure. Case A comprises an upper and a lower annular plate A' and A², respectively. Plate A' has an annular depending rim a' and plate A² a similar a², rim a² being deeper than rim a', and with plate A² forms the base of the case A. Plate A' is supported by posts a, the lower ends of which are bent at an angle and secured to the top of plate A², the upper ends of the posts lapping the inner face of rim a'. The case is surrounded by a removable sheeting or wall. (Shown by broken lines A³ in Fig. 3.) Around the edge of plate A' is an upwardly-projecting rim A⁴, which, with said plate, forms the bowl of the fountain.

In the center of plate A' is a circular opening surrounded by a rim A⁵, forming a support for a lens B, and around rim A⁵ is a concentric rim or flange A⁶, forming, with rim A⁵, an annular compartment A⁷.

Beneath lens B is a reflector B', supported by a post b, and above the reflector is an incandescent lamp B², the rays of light from which are directed to lens B by reflector B'.

On plate A² and to one side thereof is located a clockwork-train D, actuated by an electric motor D' and transmitting motion to a horizontal shaft E. The clockwork-train and an end of shaft E are supported by vertical parallel plates D², and the other end of shaft E passes through and is supported by an upright F of a frame F F'. The inner extremity of shaft E carries a bevel-wheel g, which meshes with a bevel-wheel g' on a vertical shaft G, having its bearings in the horizontal members F' of frame F F'. Above bevel-wheel g' is mounted a pinion h, which meshes with a spur-wheel h' on a vertical shaft H, also having its bearings in the horizontal members F' of frame F F', and which extends upward above said frame. To the upper end of shaft H is affixed a circular skeleton frame I, having a central hub comprising two annular plates i i, the peripheries of which form an annular groove i', radial ribs I', extending out through groove i', and a circumferential

wire I², connecting the outer extremities of ribs I'. On this frame are sectors I³, of glass of different colors, resting on ribs I' and wire I² and having their inner points engaging groove *i'* of hub *i*. Frame I is so located that a portion thereof is at all times interposed between lamp B² and the whole central opening in plate A', whereby the rays of light from said lamp must pass through a sector of colored glass on frame I to reach lens B.

The glass sectors I³ are of different colors, and the pinion *h* and the gear-wheel *h'* are constructed to transmit an intermittent motion to shaft H, so that the glass sectors are successively held at rest for a time between lens B and lamp B². In the present instance the frame I carries six glass sectors, and the gear-wheel *h'* beneath frame I has six equal segments of teeth *h*², separated by toothless spaces *h*³ in the spur-line of said wheel *h'*. Pinion *h* has but one segment *h*⁴ of teeth, corresponding in extent with one of the segments of gear-wheel *h'*, and the other part of the spur-line of said pinion *h* is a plain edge, so that gear-wheel *h'* makes but one-sixth of a revolution for each complete revolution of pinion *h*.

On shaft H is a gear-wheel J, below and of the same diameter as gear-wheel *h'*; but only one-sixth of its periphery is provided with teeth *j*. Teeth *j* mesh with the tooth-segments *j'* of a pinion J', mounted on a vertical shaft K, there being three equal segments of teeth on pinion J', separated by toothless spaces in the same manner as are the tooth-segments of gear-wheel *h'*. Pinion J' is of the same diameter as pinion *h*, and shaft K has its bearings in the horizontal member of a frame K' and in a platform L, held above plate A² by posts L', and which supports motor D', vertical plates D², frame F F', and said frame K'.

Between platform L and plate A² is located a multiple-way cock M, the plug M' in which is affixed to the lower end of shaft K. Water is fed to cock M through feed-pipe M², passing beneath plate A² and connected with a feed-opening in an end of plug M', feed-pipe M² having a stop-cock M³ on its outer end. The three delivery-pipes N, N', and N² of multiple-way cock M pass over plate A² parallel with each other to the edge of said plate, then up to and inward beneath plate A', and then up through the bottom of compartment A⁷. The fountain proper comprises three deliveries located over lens B. One of these deliveries is a single nozzle P, fed from delivery-pipe N. Another is a rose P' on the end of delivery-pipe N' and which has a nozzle *p'* secured in each of the perforations therein, and the third is a ring of pipe P², connected with delivery-pipe N² and having perforations, in each of which is secured a nozzle *p*². Each of the delivery-pipes N' and N² is provided with a cock *n'* and *n*², respectively, for regulating the discharge through the nozzles *p'* and *p*².

Such water as falls back from the fountain

into compartment A⁷ passes out through opening *a*³ in flange or rim A⁶, and the water from the bowl itself may be carried off by escape-pipe Q. It may, however, be desirable to increase the scenic effects by means of the waste water from the bowl. With this end in view escape-pipes A⁸—one only being represented in the drawings—may be let into rim or flange A⁴ at such height above the bottom of the bowl as to permit the water escaping from the same to be illuminated. I accomplish this illumination by locating a watertight case R in rear of each escape-pipe A⁸, providing each case R with a horizontal pipe R' in line with the corresponding escape-pipe A⁸ and placing in said pipe R' a lens *r*. In case R an incandescent lamp T is placed, and behind lamp T is a reflector T'.

Should it be preferable that the frame carrying the colored-glass sectors have a continuous movement, the pinion *h* and gear-wheel *h'* will have teeth extending entirely around their peripheries, as is usual.

I do not show the electrical connections for the lamps and for operating the motor, as the lamps and motor form no part of my invention.

It is to be understood that the multiple-way cock M herein shown and described is constructed for application to a fountain; but I do not limit myself to its application to feed-pipes used for any particular purpose, for the same may be applied to numbers of pipes employed for feeding for any other purpose.

I do not restrict myself to the details of construction herein shown and described, as it is obvious that many changes may be made therein without departing from the spirit and scope of my invention.

My invention involves a radical departure in the manner of feeding delivery-pipes through a cock, the invention consisting, broadly, in a multiple-way cock, provided with a plug fed through one end and adapted to open and close two or more delivery-pipes.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a fountain, of separate deliveries forming the fountain proper, a separate pipe supplying each of said deliveries, a cock having all of said supply-pipes connected therewith, and a plug adapted to open and close said supply-pipes successively, for the purpose specified.

2. The combination, in a fountain, of separate deliveries forming the fountain proper, a separate pipe supplying each of said deliveries, a cock having all of said supply-pipes connected therewith, and a plug automatically opening and closing said supply-pipes successively, for the purpose specified.

3. The combination, in a fountain, of separate deliveries forming the fountain proper, a revoluble frame carrying sectors of transparent material of different colors, a device for automatically actuating said frame and illu-

minating said fountain successively through each of said colored sectors, a separate pipe supplying each of said deliveries, a cock having all of said supply-pipes connected therewith, and a plug adapted to open and close said supply-pipes successively, for the purpose specified.

4. The combination, in a fountain, of separate deliveries forming the fountain proper, a revoluble frame carrying sectors of transparent material of different colors, a device for automatically actuating said frame and illuminating said fountain successively through each of said colored sectors, a separate pipe supplying each of said deliveries, a cock having all of said supply-pipes connected therewith, a plug adapted to automatically open and close said supply-pipes successively, and a connection between the plug and the device for actuating said frame, whereby a discharge is made through each of said supply-pipes while the fountain is illuminated through each of said colored sectors, for the purpose specified.

5. The combination, in a fountain, of a shaft, a frame on said shaft and carrying plates of different-colored glass, through which the fountain is illuminated, a spur-wheel on said shaft, having alternate segments of teeth and smooth sections of spur-line, a pinion having a segment of teeth adapted to mesh with the segments of teeth on the spur-wheel, separate deliveries to form the fountain, a separate pipe supplying each of said deliveries, a cock having all of said supply-pipes connected therewith, a plug adapted to successively open and close said

supply-pipes, a shaft, on which said plug is rigidly secured, carrying a pinion having alternate segments of teeth and smooth sections of spur-line, and a spur-wheel on the first-named shaft, having a segment of teeth adapted to mesh with the segments of teeth on the pinion of the plug-shaft, substantially as and for the purpose specified.

6. The combination, in a fountain, of a shaft, a frame on said shaft and carrying sections of different-colored glass, through which the fountain is illuminated, separate deliveries to form the fountain, a separate pipe supplying each of said deliveries, a cock having all said supply-pipes connected therewith, a plug adapted to successively open and close said supply-pipes, a shaft, on which said plug is secured, carrying a pinion having segments of teeth equal to the number of supply-pipes and separated by smooth sections of spur-line, two spur-wheels of the same diameter on said frame-carrying shaft, one of said spur-wheels having segments of teeth equal to the number of sections of colored glass and separated by smooth sections of spur-line, and a pinion of the same diameter as the pinion on the plug-shaft, having one segment of teeth adapted to mesh with the segments of teeth on said spur-wheel, the other spur-wheel on the frame-carrying shaft, having one segment of teeth adapted to mesh with the segments of teeth on the pinion on the plug-shaft, substantially as and for the purpose specified.

FRANK H. HUMPHREVILLE.

Witnesses:

GEO. A. LANE,
WM. R. GERHART.