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FOUNTAIN FOR DECORATIVE PURPOSES.

APPLICATION FILED JAN. 4, 1912.

1,066,565. Patented July 8, 1913.

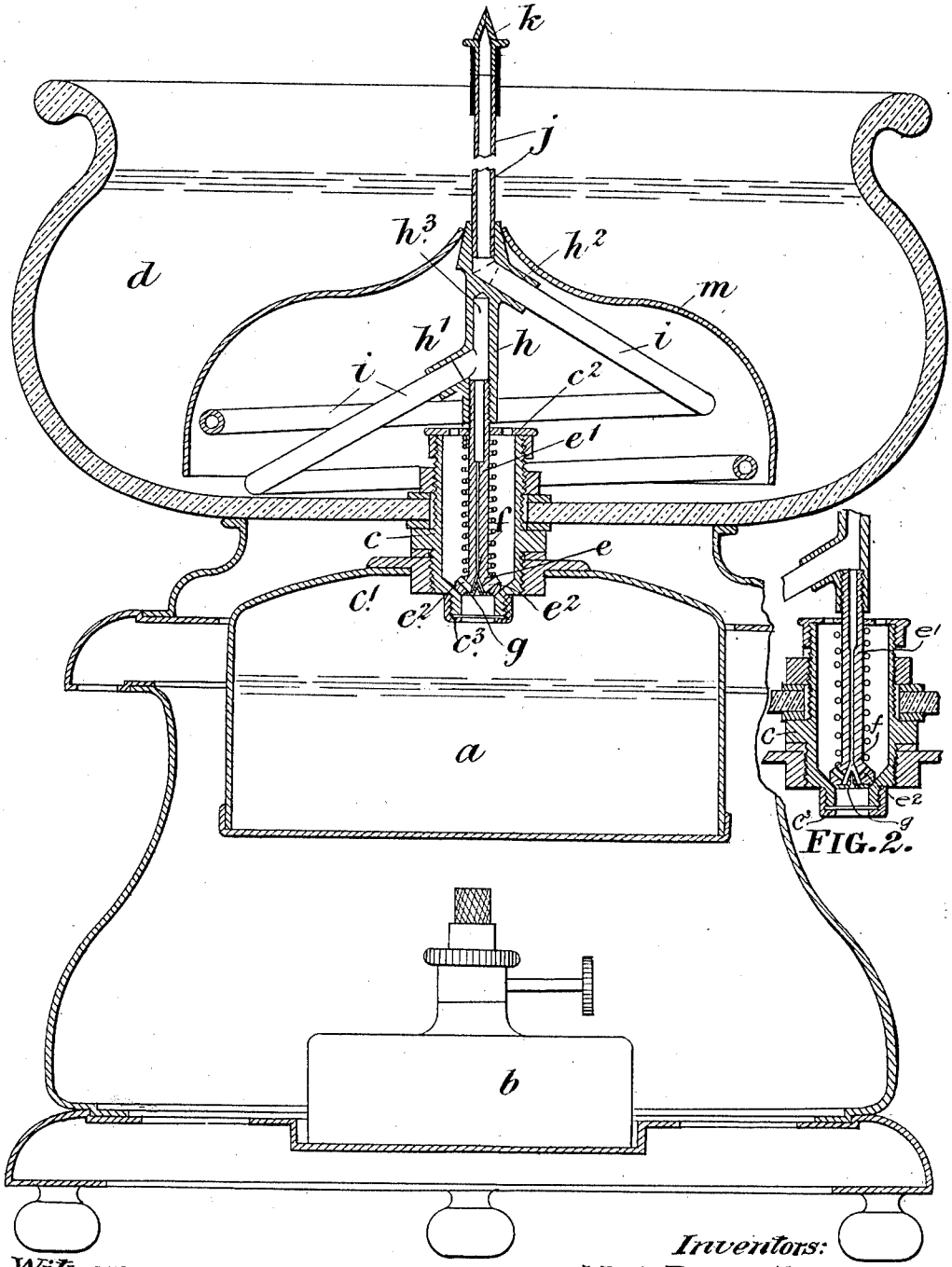


FIG. 2.

FIG. 1.

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1,066,565. Specification of Letters Patent. Patented July 8, 1913.

Application filed January 4, 1912. Serial No. 669,356.

To all whom it may concern:

Be it known that we, NOEL PARKER WOODWARD and LOUIS BURN, subjects of the King of Great Britain, residing in London, England, have invented certain new and useful Improvements in Fountains for Decorative Purposes, of which the following is a specification.

This invention relates to fountains for decorative purposes, such as table fountains.

According to the invention, steam is employed to urge the water to issue as a jet from the nozzle of the fountain, by the steam acting directly upon the water in an ejector contrivance.

In order to condense wholly the steam and to cool the water which will have absorbed heat owing to its contact with the steam, preferably, the water traverses a cooling coil of tubing, which may be located in a fountain basin arranged beneath the nozzle, before issuing as a jet or jets. Such a coil will also have a regulating effect upon the jet, preventing the jet issuing in irregular spurts. Instead of a coil, a pressure tank with an air space or cushion may be employed. Conveniently, the water which is caught from the jet in the fountain basin is re-utilized, by the basin serving as the reservoir from which the ejector draws the water, in which case any water which may be lost by evaporation is more or less replaced by the steam which becomes condensed.

Examples of fountains constructed according to the present invention are illustrated on the accompanying drawings, in which:—

Figure 1 is a vertical section of a fountain provided with a cooling coil, and Fig. 2 is a vertical section to a larger scale of certain details of construction.

In these views owing to limitation of space the basin of the fountain is shown considerably smaller relatively to the other parts than it is in actual practice.

Referring more particularly to Fig. 1, *a* is a boiler in which steam is generated by any convenient source of heat, indicated by a spirit lamp *b*. On the top of the boiler *a*, is fitted a hollow, upright cylinder *c*, provided at its lower end with a conical valve seat c^1. *d* is the fountain basin, which is mounted on the hollow cylinder *c*, which latter protrudes within the basin and is there closed by a perforated cap c^2. c^3 is a centrally bored cap screwed over the lower end of the cylinder *c*, to retain a gauze filter in place across the bore of the latter. Fitting the valve seat c^1, is a spring-pressed valve *e*. The stem e^1 of this valve is bored longitudinally, a conical enlargement *f* of the bore being formed at the lower end, in which enlargement *f* is secured an ejector steam nozzle *g*, which communicates with the interior of the boiler, by means of the gauze-covered lower portion of the bore of the cylinder *c*. Laterally upwardly inclined passages e^2, formed in the valve *e*, connect the enlarged bore *f* of the latter with the interior of the cylinder *c*, and which latter being in communication with the fountain basin *d*, water from the basin has access to the conical enlargement *f* around the steam nozzle *g*. The hollow valve stem e^1 extends through the perforated cap c^2 of the cylinder and is secured to a coupling-piece *h*, between two branches h^1 and h^2 of which a cooling coil *i* is mounted. A pipe *j* terminating in a nozzle *k* is mounted at the upper end of the coupling-piece *h*. The lower portion of the bore of the coupling-piece *h* extends at h^3 above its lower branch h^1, and such extension by trapping air or steam acts to some extent as a cushion for rendering the jet uniform. The exterior of the upper end of the coupling-piece *h* is conical and forms a support for a more or less ornamental casing *m* covering the cooling coil *i*, which is submerged in the water contained in the basin *d*. Should more steam be generated than can pass through the ejector nozzle *g*, on the pressure becoming sufficient to overcome its spring, the valve *e* will lift and relieve the excessive steam pressure. Should in such case the escaping steam not become wholly condensed in bubbling through the water contained in the basin, it can readily escape from beneath the casing *m*, as this latter will be lifted upon its conical support by an accumulation of steam beneath it.

In the construction shown in Fig. 1, the boiler having been initially filled, the fountain will, on the lamp being alight, con-

tinue to play until all the water in the boiler has become evaporated, which will be indicated by cessation of the jet. The lamp being then extinguished the boiler will cool down, whereupon the reduction of pressure therein, due to condensation of the remaining steam, will cause water from the basin to be drawn into the boiler from the fountain basin and thus the boiler will refill itself.

The water from the fountain device alternatively to issuing as a jet, may be employed to drive a water wheel, may cascade down a miniature waterfall or the like, in sylvan scenes in shop windows, conservatories, etc.

Claims.

1. A fountain comprising a steam generator, a heater for said generator, an ejector, a water supply, and a nozzle through which the water is caused to issue by the steam acting upon the water in said ejector, and a cooling coil through which the water passes prior to its escape through the nozzle.

2. A fountain comprising a steam generator, a heater for said generator, an ejector, a water supply and a nozzle through which the water is caused to issue by the steam acting upon the water in said ejector, a cooling coil through which the water passes prior to its escape through the nozzle, and a closed chamber associated with said coil.

3. A fountain comprising a steam generator, an ornamental casing containing said generator, a heater for the generator also contained within the casing, an ejector, a basin supported by the casing containing water, a communication between the basin and the ejector, a nozzle through which the water is caused to issue by the steam acting upon the water in the ejector, and a cooling coil immersed in the water in the basin and interposed between the ejector and the nozzle.

4. A fountain comprising a steam generator, an ornamental casing containing the generator, a heater for the generator also contained within the casing, an ejector, a basin supported by the casing and containing water, a communication between the basin and the ejector, a nozzle through which the water is caused to issue by the steam acting upon the water in the ejector, and a cooling coil immersed in the water in the basin, and interposed between the ejector and the nozzle, and a closed chamber in communication with said coil.

5. A fountain comprising a steam generator, an ornamental casing containing said generator, a heater for the generator also contained within the casing, a basin containing water, also supported by the casing, a tubular body attached to the generator and to the basin, and in communication with said basin, a seating within, and at the lower end of said body, a spring pressed body within the tubular body, said spring pressed body being bored longitudinally, and provided with a surface coacting with the seating in the tubular member, an ejector nozzle at the lower end of the spring pressed body, perforations communicating with the bore of the spring pressed body, and the interior of the tubular member, and a discharge nozzle through which the water is caused to issue by the steam acting upon the water in the ejector.

6. A fountain comprising a steam generator, an ornamental casing containing said generator, a heater for the generator also contained within the casing, a basin containing water, also supported by the casing, a tubular body attached to the generator and to the basin, and in communication with said basin, a seating within and at the lower end of said body, a spring pressed body within the tubular body, said spring pressed body being bored longitudinally, and provided with a surface coacting with the seating in the tubular member, an ejector nozzle at the lower end of the spring pressed body, perforations communicating with the bore of the spring pressed body, and the interior of the tubular member, a cooling coil attached at one end to an extension on the ejector carrying member, and at the other to a discharge nozzle through which the water is caused to issue by the steam acting upon the water in the ejector.

7. A fountain comprising a steam generator, a heater for said generator, an ejector and a nozzle associated with said ejector through which the water is caused to issue by the steam acting upon the water in the ejector, and a safety valve for the generator, comprising a tubular spring pressed member carrying the ejector, and through which the water passes to the nozzle, a valve facing upon the said spring pressed member, and a seating upon the steam opening of the generator.

8. A fountain comprising a steam generator, a heater for said generator, a basin containing water, a tubular body connected at one end to the basin and at the other to the generator, a communication at the upper end of the tubular body with the water in the basin, a hollow spring pressed valve member within the tubular body, a seating for said valve member in the tubular body, an ejector nozzle at the lower end of the valve member, communications between the bore of the valve member and the ejector nozzle, and a nozzle through which water is caused to issue by the steam acting upon the water in the ejector.

9. A fountain comprising a steam generator, a heater for said generator, a basin containing water, a tubular body connected at one end to the basin and at the other to

the generator, a communication at the upper end of the tubular body with the water in the basin, a hollow spring pressed valve member within the tubular body, a seating for said valve member in the tubular body, an ejector nozzle at the lower end of the valve member, communication between the bore of the valve member and the interior of the tubular body adjacent the ejector nozzle, a cooling coil, and a nozzle through which water is caused to issue by the steam acting upon the water in the ejector.

Signed in the presence of the undersigned witnesses.

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LOUIS BURN.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."