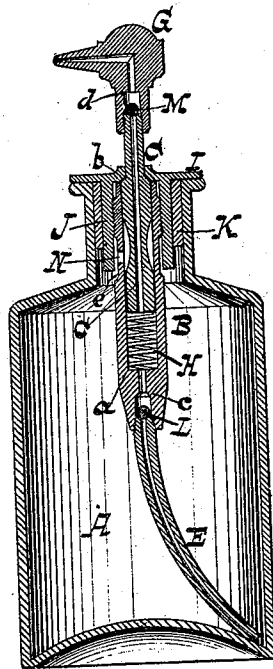


E. RATH.
PERFUME-FOUNTAIN.

No. 170,592.

Patented Nov. 30, 1875.



Witnesses.

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UNITED STATES PATENT OFFICE.

EMIL RATH, OF HOBOKEN, NEW JERSEY.

IMPROVEMENT IN PERFUME-FOUNTAINS.

Specification forming part of Letters Patent No. **170,592**, dated November 30, 1875; application filed November 4, 1875.

To all whom it may concern:

Be it known that I, EMIL RATH, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Perfume-Fountains, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, which represents a vertical central section of my improvement.

My invention relates to improvements in that class of perfume-fountains for which Letters Patent of the United States were granted to me March 9, 1875, No. 160,713.

My present improvement consists in providing the barrel of the double-acting pump (forming one of the features of the fountain) with a waste-hole, for the purpose of allowing a part of the liquid sucked into the barrel to return to the bottle when the plunger is depressed, and in consequence thereof I am enabled to depress the plunger with extreme facility.

In the drawing, the letter A designates a bottle, in the neck of which is secured, airtight, the barrel B of a double-acting pump, the barrel being bored out to receive a plunger, C. From the lower end of the barrel B projects a suction-pipe, E. The plunger C is hollow, and to its upper end is secured a discharge-spout, G, which, in this example, projects in a lateral direction, so that it may be readily grasped, while it forms a means for depressing the plunger. The plunger is subjected to the action of a spring, H, which is placed on a shoulder, *a*, in the barrel B, and which has a tendency to force the plunger upward, while to prevent the plunger from being ejected out of the barrel by the action of the spring it is provided with a shoulder, *b*, which abuts against a plate, I, forming part of a cylinder, J, which, in this example, is interposed between the barrel B and the neck of the bottle A in addition to a washer, K. Between the upper end of the suction-pipe E and a shoulder, *c*, formed in the lower part of the barrel B, is arranged a valve, L, while between the upper end of the plunger C and a shoulder, *d*, formed in the discharge-spout G, is arranged, also, a valve, M.

When the bottle A is in its normal position

the valves L M tend to close the upper ends of the suction-pipe E and the plunger C, while, when the bottle is inverted, the valves close the passages leading from the shoulders *c d*, and prevent escape of liquid from the bottle.

In order to eject liquid from the bottle I depress the plunger C, so as to close the lower valve L, and expel the air contained in the barrel B through the valve M and the spout. The plunger is then released and allowed to follow the action of its spring H, whereby the upper valve M is closed while the valve L is opened, and a portion of the liquid contained in the bottle is sucked into the barrel B. If the plunger is then again depressed the liquid previously sucked into the barrel B is expelled by the plunger and the spout.

The barrel B is provided with a waste-hole, N, in its side, which is so arranged, that it forms an avenue of communication between the barrel and the interior of the bottle A. Now, the plunger C is fitted loosely in the barrel B, and hence, when the plunger is depressed in order to discharge the liquid sucked into the barrel, a part of the liquid passes up alongside the plunger, and is forced out through the waste-hole N. By this arrangement the liquid which is not expelled by the plunger is returned to the bottle, while the operation of depressing the plunger is at the same time greatly facilitated.

The spout G and the suction-pipe E are made detachable in order that access may be had to the valves L and M, such spout and pipe, as well as the barrel B, being secured in their proper places by means of screw-threads.

At the point of the hole N a recess, *e*, is formed in the outer surface of the barrel B, such recess extending downward beyond the lower end of the collar J. The object of the recess is to create a space between the barrel B and the collar J for the passage of the liquid forced from the hole N by the action of the plunger.

I do not wish to claim anything described and claimed in my former patent, No. 160,713; but

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

The combination, with a bottle, A, of the barrel B, provided with a waste-hole, N, the plunger C, spring H, suction-pipe E, discharge-spout G, and valves L M, all constructed and operating substantially as described.

In testimony that I claim the foregoing I

have hereunto set my hand and seal this 26th day of October, 1875.

EMIL RATH. [L. s.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.