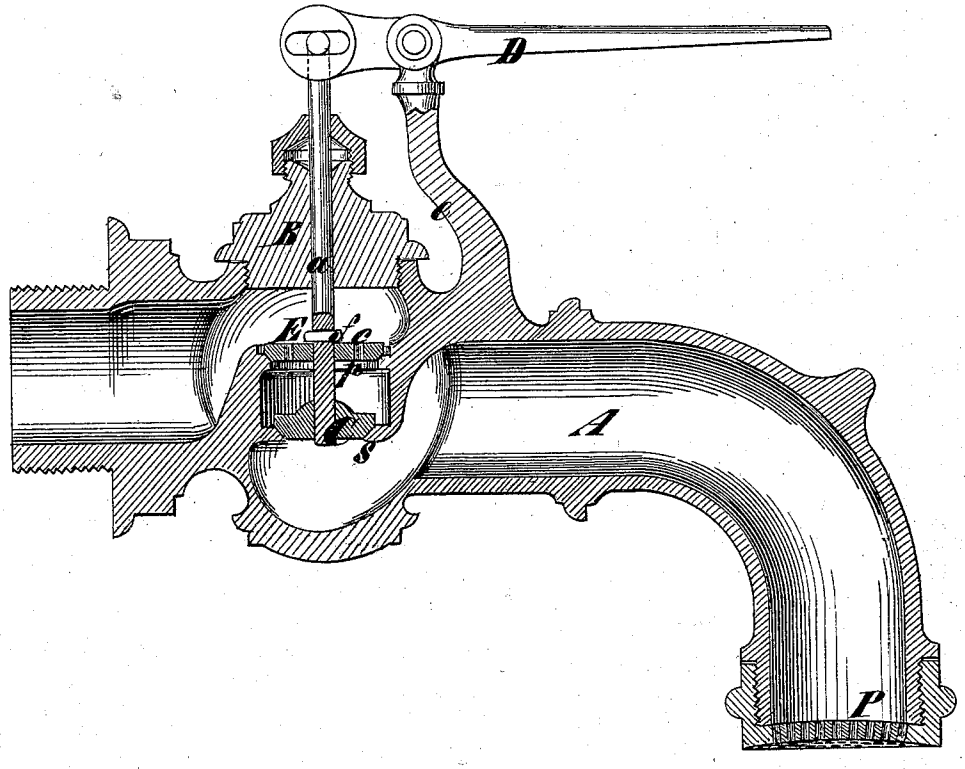
P. HILLE.

Faucets.

No. 144,097. Patented Oct. 28, 1873.



Witnesses
John Becker.
Fred Haynes

Paul Hille
by his attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

PAUL HILLE, OF UNION, NEW JERSEY.

IMPROVEMENT IN FAUCETS.

Specification forming part of Letters Patent No. **144,097**, dated October 28, 1873; application filed June 27, 1873.

CASE B.

To all whom it may concern:

Be it known that I, PAUL HILLE, of the town of Union, in the county of Hudson and State of New Jersey, have invented Improvements in Faucets, of which the following is a specification:

This invention consists in the combination, with the valve ordinarily employed to control the opening and closing of the faucet, of an independent, loose, perforated valve arranged above it on its stem, whereby, in the closing of the faucet, the loose perforated valve closes first and impedes the outward flow of the water before the main valve seats itself and entirely checks the stream. By this means all injury to pipes, consequent on the sudden checking of the outflowing water, is obviated in a very simple and efficient manner. The other feature of the invention is equally applicable to faucets of all kinds. It consists in an improvement in the mouth of the faucet, whereby the stream as it issues is concentrated into compact form, for the purpose of obviating the spraying and splashing inherent in most faucets.

The drawing represents a central longitudinal section of a faucet made with my improvements.

A is the shell of the faucet. It is essentially of the usual form, having a bent nozzle and a seat, *s*, arranged horizontally in he usual manner under its cap B. Likewise, it has at its inner end a screw-threaded nipple to facilitate its attachment. Above the seat *s* of the main valve C there is another seat for the loose perforated valve before alluded to. The main valve C is of the usual form, and is rigidly attached to a stem on rod *a*, which extends up through a stuffing-box in the cap B of the faucet, and is fastened to the end of the shorter arm of a lever, D, that constitutes the operating handle of the faucet. This handle is pivoted to a fulcrum-post, *e*, situated in proximity to the cap C, and extends forward over the faucets' spout or nozzle to afford ample leverage for operating the valves even when under great pressure. E is the independent perforated valve. It is a disk-valve like the main valve C, and is arranged on the same stem therewith. It fits the seat *p*. Perforations *c c* extend through this valve from side to side, and thereby admit water into the chamber or space between the valves. Thus the pressure on the valve E is balanced. There is a pin, *f*, inserted in the stem *a*, just above the valve E, which controls the opening of the valve. The improvement in the mouth of the faucet consists simply in a plate, P, arranged therein. The shape of this plate is convex toward the inside of the faucet. It is perforated with numerous holes, which converge all toward the center of the sphere of which the plate is a segment. In the drawing this plate is shown attached to the faucet by means of a screw-threaded rim applied to the screw-thread on which the hose-coupling is usually screwed, but it will oftentimes be formed with the faucet.

The operation of the faucet thus constructed is as follows: After the faucet has been opened, and its handle has been let go, the loose valve E shuts quickly on its seat and checks the course of the water by confining its flow to the small perforations *c c*. By this means the egress of the water is easily but very effectually checked. The main valve C closes then and shuts off the water entirely. In opening the faucet the loose valve E is no impediment at all, for when the valve C is raised the water between it and the said valve E acts as a cushion and raises it. A boss on the top of the valve C retains the independent valve E open by abutting against it. The outflowing stream when it reaches the plate P passes, of course, through the openings therein, and is separated into numerous small streams or jets. These jets are diverted each toward the others, and thereby the whole stream is concentrated into one compact body, and all splashing and spraying are obviated. This plate will also retard the seating of the valve somewhat.

What I claim as my invention is—

The combination, with a faucet, of the convex plate arranged in its mouth, and perforated with converging holes, substantially as and for the purpose specified.

PAUL HILLE.

Witnesses:
MICHAEL RYAN,
FRED. HAYNES.