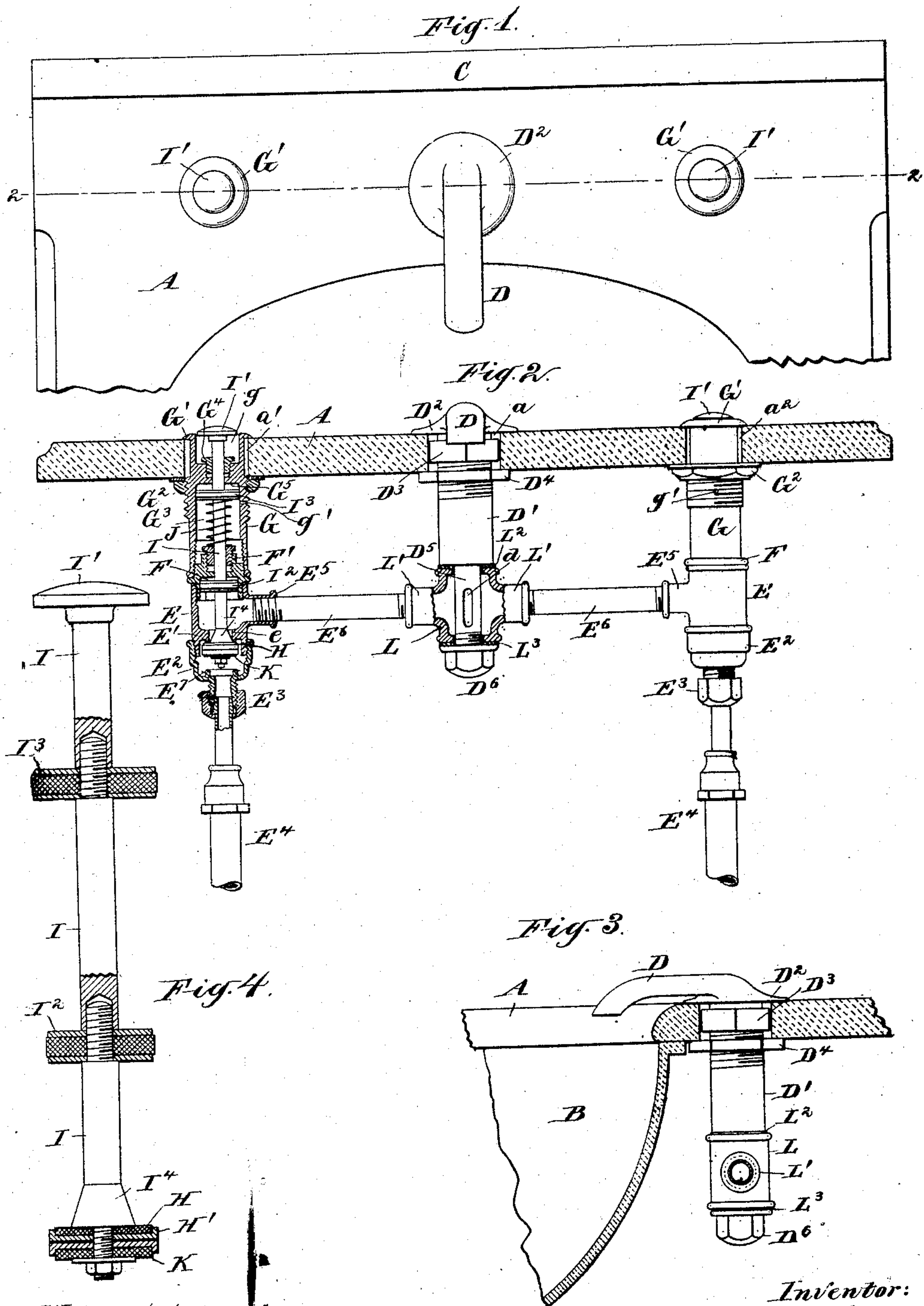


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R. F. GILLIN.
PLUMBING FIXTURE FOR LAVATORIES.
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UNITED STATES PATENT OFFICE.

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PLUMBING FIXTURE FOR LAVATORIES.

No. 866,642.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT F. GILLIN, a citizen of the United States, residing in the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Plumbing Fixtures for Lavatories, of which the following is a specification.

The invention relates to means for controlling the supply of water to hand-basins and analogous receptacles, and its main object is to provide the valves for the water-supply pipes with operating means which, with the basin-cock, shall lie as nearly flush as practicable with the basin-slab and project so little above the upper face thereof as to permit the slab to be easily cleaned.

Another object is to provide self-closing valves especially adapted to be operated by means lying normally nearly flush with the slab and moved by depression therein, and a further object is to provide connections between such valve-casings and the basin-cock which shall be simple, inexpensive to manufacture, and constructed to permit easy installation of the apparatus with access to all portions for inspection, adjustment or renewal of parts.

The invention consists in certain novel features, details of construction, and arrangement of parts by which the above objects are attained, to be hereinafter described and pointed out in the claims.

The accompanying drawings form a part of this specification and show an approved form of the invention as applied to a hand-basin.

Figure 1 is a plan view of a portion of a basin-slab equipped with the invention. Fig. 2 is a vertical section on the line 2—2 in Fig. 1, partly in elevation. Fig. 3 is a vertical section through a portion of the basin and slab, showing the basin-cock in elevation. Fig. 4 is an elevation, partly in vertical section, showing one of the valve-stems and its connected parts on a larger scale.

Similar letters of reference indicate the same parts in all the figures.

A is the basin-slab, B the bowl and C the back-slab. The basin-slab has a central opening a for the basin-cock or spigot D and on one side an opening a^1 for the hot water valve and opposite thereto an opening a^2 for the cold water. In each is a push-button by which its valve is opened to admit water to the cock. Both valves are alike and a description of one will suffice.

E is the valve-casing having a downwardly projecting seat E^1 surrounding a central opening e through which water is received from a chamber E^2 connected by a union at E^3 with the supply-pipe E^4 . Into the

upper end of the casing is screwed a cylinder F having a stuffing-box F^1 at its upper end.

G is a casing screwed upon and inclosing the cylinder F and extending through the opening a^1 , terminating in a flat collar or flange G^1 lying upon the upper face of the basin-slab and held to the latter by a nut G^2 on the exterior of the casing G beneath the slab. The interior mid-length portion of the casing G is smoothly finished to form a cylinder G^3 and is provided with a stuffing-box G^4 in the diaphragm G^5 forming the bottom of the recess g in the upper end of the casing G.

H is the main-valve, consisting of a disk of leather or analogous material supported in a shallow cup H^1 of metal secured at the lower end of the valve-stem I extending axially through the valve-casing E, cylinders F and G^3 and their stuffing-boxes and terminating in a push-button I^1 in the open upper end or recess g of the casing G. The stem I carries a piston I^2 matching to the cylinder F and at a higher level a similar piston I^3 matching to the cylinder G^3 . The valve is opened by downward pressure on the button I^1 and closed automatically when released by a spring J inclosing the stem and abutting against the stuffing-box F^1 and piston I^3 . Slow closing is effected by the action of the pistons I^2 and I^3 in the cylinders F and G^3 , the lowermost forming a water-check and the uppermost an air-check, air being admitted through the aperture g^1 . At the lower end of the valve-stem is a cone I^4 immediately above the main-valve H, serving gradually to reduce the area of the opening through the valve-seat as the valve closes and thus prevent hammering or chattering.

A tubular arm E^5 extends laterally from the casing E above the main-valve and is either joined directly to a branch L^1 on the shell L, or is connected thereto by a pipe E^6 , as shown, to convey water to the cock D. The latter is a flattened spout lying close to the slab and projecting over the edge of the bowl. It forms part of a screw-threaded pipe D^1 extending through the opening a and having a flat smoothly rounded flange D^2 lying upon the slab and from which the spout extends. A squared collar D^3 on the pipe engages the opening a and the whole is firmly held by a nut D^4 on the exterior of the pipe D^1 engaging the under face of the slab. On the lower end of this pipe is a tubular extension D^5 of smaller diameter, having one or more openings d and screw-threaded at its lower end to receive a cap-nut D^6 . The extension is received in the shell L and the latter firmly held to the pipe D^1 by screwing up the nut D^6 , tight joints being secured by the packing rings L^2 L^3 .

Thus constructed a downward thrust on the button I^1

opens the main-valve against the pressure of the water and force of the spring J; the flow continues through the casing, shell, and opening d to the basin-cock as long as the valve is depressed, and so much longer as is required by the water pressure and the spring to reseat the valve against the opposition of the water-check at F and the air-check at G². The duration of this closing movement may be so conditioned by the force of the spring and resistance of the checks as to permit a sufficient flow to the bowl for a usual supply by simply depressing the push-button and immediately releasing it. In any case the automatic action of the valve tends to prevent unnecessary waste of water.

To prevent a continuous wasteful flow due to holding the valve in the extremely depressed position by the application of a weight to the button or otherwise, an auxiliary-valve-seat E⁷ is provided in the chamber E² and a second or auxiliary-valve K is applied to the valve-stem below the main-valve H, the effect being to shut off the supply if the valve-stem be held down to the extreme limit of its motion.

The construction avoids the objectionable projections of the usual stop-cocks, bibs and controlling devices and permits a degree of cleanliness and neatness of appearance not otherwise attainable.

By disengaging the unions E³ and loosening the nuts G² G², D⁴ and D⁶ the valves, casings, and connections to the cock may be easily removed and examined, adjusted or repaired.

The valve-stem with its valves and pistons are assembled and held as shown in Fig. 4; the "straight-line" arrangement affording simple and economical construction.

It will be noted that the pressure of the water tends to seat the main-valve, thus lessening the danger of leakage, and also that the cylinders F and G³ of the water and air checks open downwardly thus permitting any water to escape and relieving the stuffing-boxes. The air check may be dispensed with if preferred, relying upon the water check alone to retard the closing movement, and the auxiliary-valve K and its seat E⁷ may also be omitted.

I claim:—

1. In a lavatory, a bowl, a basin-slab having an opening therethrough, a valve and valve-casing beneath said slab, a stem from said valve extending into said opening, a button on the upper end of said stem received in said opening normally flush with the upper face of said slab and constructed to sink therein under pressure to open said valve, a stuffing box adjustably mounted at the lower end of a recess in said casing below the upper face of the slab, a spigot for said bowl, and connections from said valve-casing to said spigot.

2. In a lavatory, a bowl, a basin-slab having an opening therethrough, a valve-casing beneath said slab extending through said opening and terminating in a recess surrounded by a flange engaged with the upper face of said slab, a valve in said casing, a valve-stem extending through said casing, a button on said stem lying in said recess nor-

mally flush with the upper face of said slab and arranged to open said valve by a downward movement therein, a stuffing box at the bottom of said recess below the upper face of the slab and below said button, a spigot for said bowl, a supply-pipe for said casing, and connections from the latter to said spigot.

3. In a lavatory, a basin-slab having an opening therethrough, a valve-casing beneath said slab and extending through said opening, a flange on the upper end of said casing engaged with the upper face of said slab, a recess in the upper end of said casing, a stuffing box at the bottom of said recess below the upper face of the slab and below said button, a supply chamber at the lower end thereof, a valve-seat on said casing, a downwardly-opening valve in said supply chamber, a discharge-opening in said casing above said valve-seat, a downwardly-open cylinder in said casing above said discharge-opening, a valve-stem for said valve extending axially upward therefrom, a piston on said stem matching said cylinder and forming therewith a water-check, a stuffing-box above said cylinder inclosing said stem, a spring inclosing said stem and tending to close said valve, and a button on said stem received in said recess, normally flush with the upper face of said slab all constructed to open said valve by depressing said button in said recess and automatically to close said valve by the action of said spring and the water pressure in opposition to said water-check.

4. In a lavatory, a basin-slab having an opening therethrough, a valve-casing beneath said slab and extending through said opening, a flange on the upper end of said casing engaged with the upper face of said slab, a recess in the upper end of said casing, a supply chamber at the lower end thereof, a main-valve seat on said casing, a downwardly-opening main-valve in said supply chamber, a downwardly-closing auxiliary valve below said main-valve, an auxiliary-valve seat in said supply chamber, a discharge opening above said main-valve seat, a downwardly open cylinder in said casing above said discharge-opening, a stuffing-box for said cylinder, an auxiliary cylinder above said stuffing-box, a diaphragm forming the bottom of said recess, a stuffing-box in said diaphragm, a valve-stem for said main and auxiliary valves, pistons in said cylinders carried by said stem, a spring tending to raise said stem, and a button on the upper end of said stem received in said recess and adapted to open said main-valve by depression in said recess and to close said auxiliary valve by a movement of said button in the same direction to the limit of its travel.

5. In a lavatory, a bowl, a basin-slab, a basin-cock extending through said slab, a tubular extension from said cock forming a shoulder therewith and having an opening, a shell inclosing said extension and held to said shoulder by a cap-nut on said extension, branches on said shell, a valve-casing for each branch, recesses in said slab each receiving the upper end of one of said casings, a self-closing valve in each casing, a water supply-pipe for each casing, a valve-stem extending axially of each casing, and a button at the upper end of each valve-stem received in said recesses normally flush with the upper face of said slab and adapted to open said valves by depression in said recesses, and a stuffing box adjustably mounted in each recess below the top edge of the casing and below the push button.

In testimony that I claim the invention above set forth I affix my signature, in presence of two witnesses.

ROBERT F. GILLIN.

Witnesses:

CHARLES R. SEARLE,
F. E. ECCARDT.