

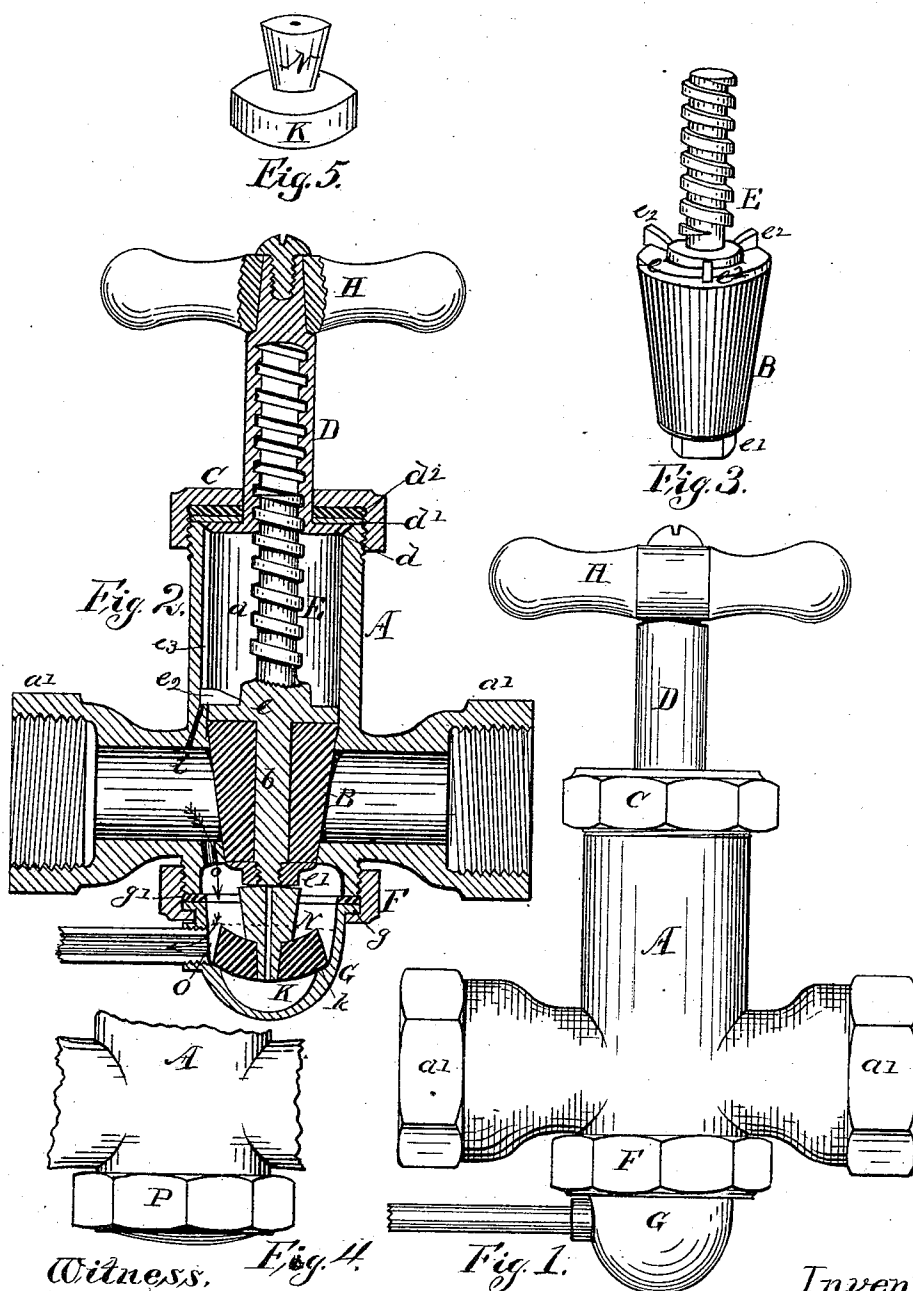
(No Model.)

H. TAYLOR, R. B. SHARP & T. J. CAIN.

STOP AND WASTE COCK.

No. 291,808.

Patented Jan. 8, 1884.



Witness,

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UNITED STATES PATENT OFFICE.

HENRY TAYLOR, RICHARD B. SHARP, AND THOMAS J. CAIN, OF CLEVELAND, OHIO; SAID CAIN ASSIGNOR TO SAID SHARP AND TAYLOR.

STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 291,808, dated January 8, 1884.

Application filed January 15, 1883. (No model.)

To all whom it may concern:

Be it known that we, HENRY TAYLOR, RICHARD B. SHARP, and THOMAS J. CAIN, all of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stop-Cocks, of which the following is a specification.

The nature and objects of these improvements will fully appear from the subjoined description, when considered in connection with the accompanying drawings, which show our faucet, and in which—

Figure 1 is a side elevation. Fig. 2 is a vertical section. Fig. 3 is a detached view of the closing-plug and its operating-screw. Fig. 4 is a view of the lower portion of the valve-chamber, having short cap for closing the lower end of said chamber substituted for the vent-cap, as seen in Figs. 1 and 2. Fig. 5 is a detached view of the rubber disk and its stem used for closing the waste-vent.

A is the shell or case of the valve, having a chamber, *a*, for receiving the valve-plug when the same is raised to open the passage; also having the sockets *a'*, for the purpose of attaching it to the supply-pipe. The top of the chamber *a* is closed with a screw-cap, C, through which is placed a hollow stem, D, provided with a disk, *d*, having a beveled edge resting on the beveled inner edge of the wall of said chamber *a*. Above the disk *d* is placed a leather washer or packing, *d'*, and a metal washer, *d''*, within the cap C, for the purpose of making a tight joint. Said hollow stem D is provided on its top with a handle, H, by which it may be turned, the aforesaid disk *d* revolving on the upper edge of the wall of the chamber, and said stem is provided with an internal screw-thread, as seen in Fig. 2.

B is a tapering rubber plug (rubber being preferable to other material) fixed upon the core *b* of the valve-stem E, secured thereon below the disk *e* by means of nut *e'* on lower end. The upper part of valve-stem E is screw-threaded externally to play in the hollow stem D, the turning of which operates the valve. The disk *e* is provided with lugs *e''*, playing in grooves *e'* in the inside surface of the chamber *a*, for the purpose of preventing the turning of

the valve when operated upon by the turning of the stem D. A water-channel, *i*, is formed in the wall of the chamber *a*, between said chamber and waste side of cock, thus preventing the forming of a vacuum or compression of water in said chamber.

The lower side of the valve-case is made open and provided with a screw-collar, F, supporting a lower chamber, G, held in place by means of a flange, *g*, the joint being made tight by means of a leather gasket, *g'*. The said chamber G is provided with a waste-outlet, O. Within said chamber G is provided a thick rubber or elastic disk, K, resting on a ledge, *k*, and with its edge covering the outlet O. Said disk is provided with a hollow stem, N, which is pressed down upon by contact of lower end of core *b* of valve-stem E when the valve is down. This depresses the central part of said disk, withdrawing the periphery away from the waste-opening O, thereby opening an escape for the waste water. A passage, *o*, is made between the chamber G and the waste side of the cock for drainage. The vertical opening through the stem N is for giving equal pressure on both upper and lower sides of said disk K, and thus relieve it of undue water-pressure or tendency to the creation of a vacuum.

To convert this valve from a stop and waste to a plain stop cock, a plain cap, P, is substituted for the chamber G and collar F, thus making it useful for liquids, gases, or vapors, either hot or cold.

The operation of this valve, it will be noticed, is as follows: Referring to Fig. 2, the valve is seen closed. To open it the hollow stem D is revolved to the right by means of the handle H. This draws the valve upward into the chamber *a*, the stem E being drawn upward in the hollow of stem D, the lugs *e''* riding upward in the grooves *e'*. The valve being thus drawn upward the pressure of core *b* on the stem N is removed. Then the disk K resuming its straight form, its periphery covers the outlet-opening O, thereby shutting off the waste drainage. When the valve is again closed, the said disk K is again depressed, opening the outlet and allowing the water to run

out and drain the valve. The arrow indicates the direction and flow of the waste water. The waste-pipe to outlet O may be turned and adjusted at any side, as will be seen by the construction of the chamber G, to suit circumstances.

Having described our invention, we claim—

1. The combination, with the valve B, having screw-stem E, and lugs *e*, playing in grooves *e*³ of chamber *a*, of the hollow internally-screw-threaded stem D, provided with collar *d*, operating as and for the purpose specified.
2. In a stop and waste cock, the lower de-

tachable chamber, G, provided with collar F for attaching it to the shell of the valve, and containing the flexible disk K, having the hollow stem N, in combination with and operated upon by the lower end of valve B, whereby the waste-outlet O is opened and closed, as and for the purpose specified.

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