W. F. CLASS.

VENT-FAUCET.

No. 173,160. Patented Feb. 8, 1876.

Fig. 1

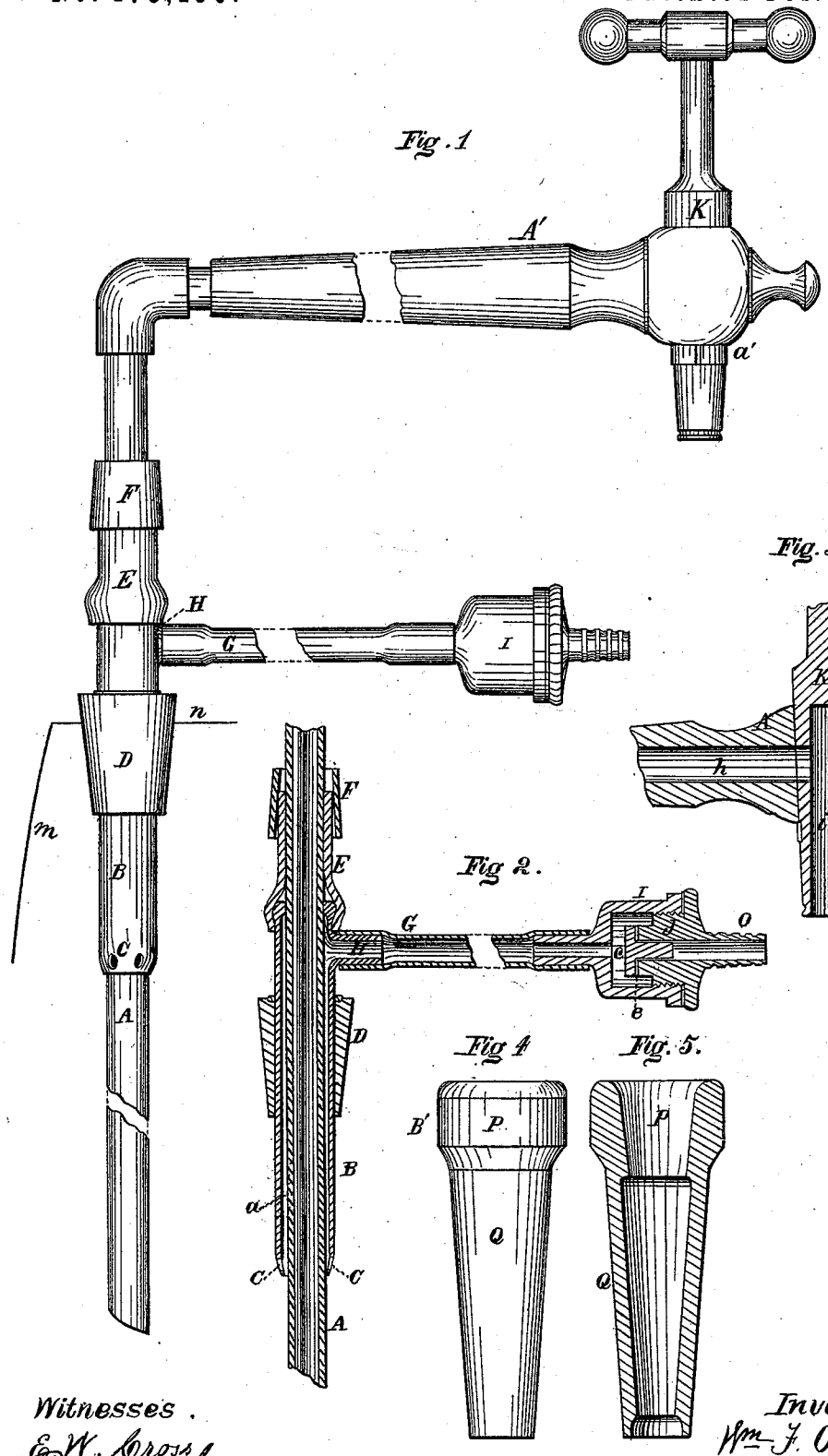

Fig. 3

Fig 2.

Fig 4

Fig. 5.

Witnesses.

E. W. Cross

Geo. H. Kennedy

Inventor

Wm. F. Class.

Per Burridge & Co.

Attys

UNITED STATES PATENT OFFICE.

WILLIAM F. CLASS, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHRISTIAN LUCIUS, OF SAME PLACE.

IMPROVEMENT IN VENT-FAUCETS.

Specification forming part of Letters Patent No. **173,160**, dated February 8, 1876; application filed December 27, 1875.

To all whom it may concern:

Be it known that I, WM. F. CLASS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Air-Pressure Faucets; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of the faucet. Fig. 2 is a vertical transverse section. Figs. 3 and 4 are detached sections. Fig. 5 is a vertical section of Fig. 4.

Like letters of reference refer to like parts in the different views presented.

This invention consists in a combination of certain devices for the purpose of forcing or drawing liquids from barrels, and at the same time admitting an equivalent amount of air therein to continue the pressure upon the liquid, and in part to preserve the temper of the liquid, and to cause its discharge from the barrel immediately on the application of the drawing or forcing apparatus, by which the liquid is discharged therefrom.

The invention also consists in a tube inserted in the bore of the faucet-key, for admitting air into the key above the opening in the side thereof to prevent the after-drip of the faucet.

The following is a description of the several parts of the invention, of which Fig. 1 represents an outside view.

A is a tube, the length of which may be more or less, according to the height of the barrel in the head of which it is inserted. To said tube is fitted a sliding tube or sleeve, B, between which and the tube A is an annular air-space, *a*, Fig. 2, opening to the outside by air-holes C. To the outside of said sleeve is secured an elastic stopper, D. The upper end of the sleeve is made air-tight in its connection with the tube A by an elastic collar, E, one end of which incloses the end of the sleeve, and the other embraces the tube, and which is made to clasp snugly about it by a thimble, F, pushed on over the end of the collar, thereby compressing the collar around the tube, as will be seen in Fig. 2.

G is a flexible tube, one end of which is attached to the sliding sleeve B by being placed on over a nipple, H, Fig. 2. Said nipple is the outlet of the annular air passage or space *a* referred to.

The opposite end of the flexible tube is attached in like manner to a valve-chamber, I, provided with a screw-cap, J. The inner end of the cap forms a seat for the valve *c*, between which and the seat is interposed a rubber packing, *e*, Fig. 2. The stem of the valve fits loosely in the bore of the cap for the passage of air through the valve from an air bellows or pump.

The general construction of the faucet or cock A′, attached to the tube A, is like those in ordinary use, and of which K is the key or plug, in the bore I whereof is secured a small tube, M, Fig. 5, the upper end of which opens in the bore of the key above the bore *h* of the body of the cock, as will be seen in said Fig. 3.

In drawing beer or other liquid of an effervescent nature it becomes necessary to keep the beer at all times under a strong pressure; hence, while drawing or forcing beer from the barrel, it is important that the pressure therein be kept up. This is effected by the admission of an equivalent amount of air into the barrel simultaneously with the drawing of the liquor. To a more successful accomplishment of this end the barrel is placed on its head, and the tube A inserted in the tap-hole, which is secured therein by the elastic stopper D and sleeve B, as shown in Fig. 1, in which the lines *m n* represent the side and head of a barrel.

It will be obvious that while the sleeve and stopper hold the tube in the barrel it can be slid therein telescopically without leaking, as the close embrace of the collar E renders its connection with the tube air-tight.

In order to draw or force the contents of the barrel therefrom, a force-pump, or, which is preferable, a pair of bellows, is attached to the end *o* of the valve-chamber I by means of a flexible tube so adjusted that the bellows may be operated by means of the foot, thereby leaving both hands at liberty for working the faucet, and for holding the vessel into which the liquor is to be drawn.

On working the bellows air is forced thereby through the valve *c* into the tube G, along

which it passes into the annular air-space *a*, thence into the barrel above the surface of the liquor. The pressure of the air forces the liquor up through the tube A to the faucet A′, which, on being opened, will flow therefrom. For the amount thus thrown off an equivalent of air is simultaneously admitted, and the pressure on the contents of the barrel maintained, thereby requiring but one opening for ventilation and draft.

The end of the tube A, when first inserted in the barrel, should not descend far into the liquor; hence it takes the liquid from near the surface, where it is the clearest in such liquids that continue to deposit sediment. As the liquor diminishes in bulk, the tube can be pushed downward through the sleeve by degrees, thus following the liquid down, so that it will always take its supply from near the surface, the clearest part of the liquid, until all the contents of the barrel are drawn off.

In the event the stopper D is too small to properly fill the opening in the barrel, the bush B′, Fig. 4, may be inserted in the hole, and the tube and sleeve passed through it, and the stopper D forced into the mouth P of the bush. The bush is intended to be much larger than the stopper, so that the tapering part Q thereof will be proportionately larger than represented in the drawings. This bush, however, will not often be required, as a larger stopper can be put on the sleeve in place of the one shown, which is preferable to using the bush.

In drawing beer with an ordinary cock, after it is shut there remains in the end of the key an amount of liquor which is retained there by the external pressure of the atmosphere. Shortly it falls from the key, making a splash upon the floor, and if the drawing is frequent a pool of liquor is formed under the cock. To avoid this after dropping of the fluid is the purpose of the tube M referred to, secured in the bore of the key, and at the moment the cock is stopped air will pass up the tube above the fluid in the key, and cause it to fall therefrom before the removal of the cup into which the liquor was drawn.

To prevent the key from being pulled out of its seat, a spring-band, *a′*, is placed on around the end of the key immediately below its seat, so that its upper edge will be in close contact with the side of the seat, and its lower edge supported on a shoulder formed by a groove made around the key for the reception of the spring-ring, as will be seen in Fig. 3. Said ring is substituted for the nut and washer applied to ordinary cocks for that purpose.

I am aware that ventilating faucet plugs or keys have been known; but what distinguishes my improvement is the pipe M, arranged within the chamber *i* of the key, as shown, by which all of the fluid is expelled from the chamber. Thereby the faucet is kept clean and free from the oxidation which occurs when the fluid is retained by an imperfect vent or otherwise.

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

1. The sleeve B, stopper D, collar E, and thimble F, in combination with the tube A, substantially as described, and for the purpose set forth.

2. In combination with the sleeve B, the valve chamber I, attached thereto by a flexible tube, G, valve *c*, provided with a rubber packing, *e*, in the manner as described, and for the purpose set forth.

3. The tube M, arranged within the chamber *i* of the key, in combination with the key K and faucet A′, substantially as and for the purpose set forth.

WILLIAM FREDRICK CLASS.

Witnesses:

J. H. BURRIDGE,

E. W. CROSS.