F. W. WOLF.

VALVES FOR BREWERS' VATS AND STEEP-TANKS.

No. 187,210. Patented Feb. 6, 1877.

Fig. 1.

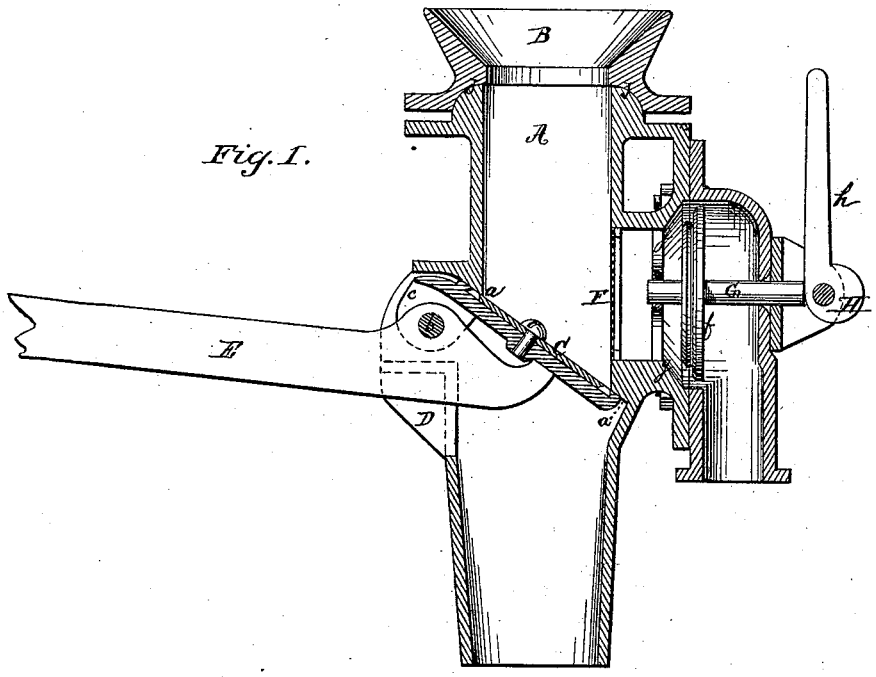
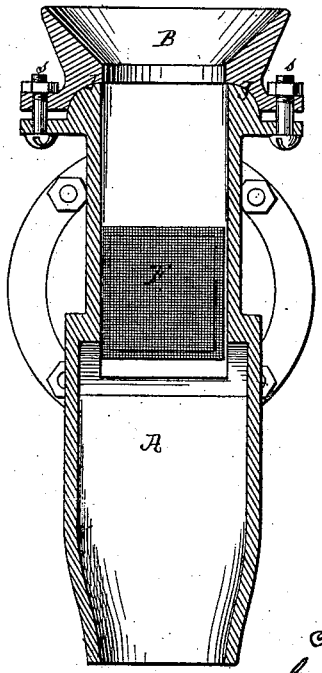


Fig. 2.



Witnesses:

C. Clarence Poole

Rich'd K. Evans.

Inventor:

Fred'k W. Wolf

by A. H. Evans & Co.

Attys.

UNITED STATES PATENT OFFICE.

FREDERICK W. WOLF, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN VALVES FOR BREWERS' VATS AND STEEP-TANKS.

Specification forming part of Letters Patent No. **187,210**, dated February 6, 1877; application filed November 9, 1876.

To all whom it may concern:

Be it known that I, FREDERICK W. WOLF, of Chicago, Illinois, have invented certain new and useful Improvements in Drawing-Off Valves for Brewers' Vats, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a sectional view of my invention. Fig. 2 is a vertical cross-section through *x x*.

My invention relates to that class of devices used in emptying steep-tanks and brewers' vats; and it consists in the construction and arrangement of the valves, as hereinafter explained and claimed.

To enable others skilled in the art to make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the drawings, A represents the emptying-tube, to be placed in the bottom of the vat, and is provided on its top with flaring-mouthed opening B. Below this opening, and about midway the tube, is placed the inclined valve C, loosely pivoted by means of a bolt, *b*, passing through the ears *c* to the lugs D D, formed on the sides of an opening made in the tube A. This valve is operated by means of the lever E, pivoted between the ears *c c* by the bolt *b*. The valve C is provided with suitable packing, to make a tight joint against the shoulder *a*, formed inside the tube A. It is evident from this construction that whenever the lever E is raised to a more vertical position, the valve C will fall to the side of the tube A far enough back to be out of the way, and allow the wet grains or mash to fall through, thus affording an easy and ready means for emptying the tub or tank with hoppered bottom. On the opposite side of the tube A to the valve C is an opening for the discharge of liquid from the tub or tank before the valve C is opened. Over this opening is secured the screen F, flush with the side of the tube, as shown in Fig. 1, and behind the screen is placed the valve *f*, rigidly attached to the pin G, and fitting into the valve-seat *g*. The pin G is moved up by the cam H, attached to the lever *h*.

The operation of this part of my invention is as follows: When the lever *h* is brought down, the cam H moves up the pin G, and the valve *f* is forced into its seat *g*, where, with a suitable packing, it forms a tight joint. When the lever *h* is raised, as shown in Fig. 1, the valve is forced from its seat by the weight of the liquid in the tube A, and which escapes without disturbing the body of the mash or steep. When the lever is again brought down, the valve *f* is again returned to and securely held in its seat *g* by the cam H.

As brewers' and distillers' vats are usually very large, containing a heavy weight of material to be discharged, it becomes essentially necessary to have the tube A in an exact vertical position, to prevent the possibility of its choking. To secure this feature, I have constructed the tube and its flaring mouth with the ball-and-socket joint J, as shown in Fig. 2, whereby I am enabled, with the screws *s*, connecting these parts, to adjust the tube A to an exact vertical position. Additional means than the lever E may be used to force the valve C close on its seat after the lever C has brought the valve into position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The valve C, pivoted at its upper edge by means of lugs *c*, and opening by gravity, so as to lie flush with tube A, in combination with tube A and lever E, substantially as set forth.

2. The valve *f*, rigidly attached to the pin G, in combination with the tube A, screen F, cam H, and lever *h*, substantially as and for the purpose set forth.

3. In combination with a faucet, constructed substantially as described, the flaring-mouthed piece B, connected by a semi-universal joint, as and for the purpose set forth.

4. The drawing-off apparatus, constructed as described, and provided with the valves C and *f*, levers E and *h*, pin G, and screen F, substantially as and for the purpose set forth.

FRED. W. WOLF.

Witnesses:

CHARLES S. THORNTON,
ROBERT P. JAMPOLIS.