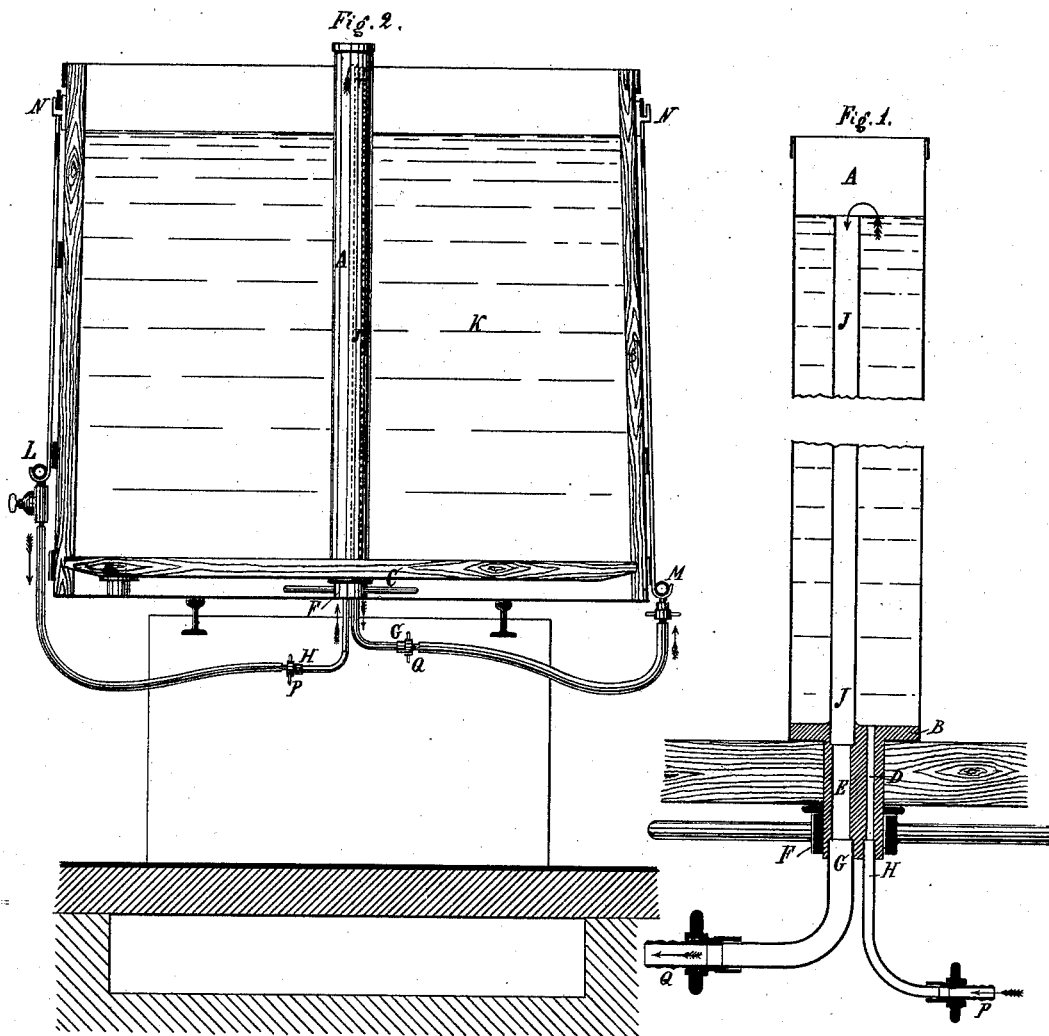


F. LITTMANN.
Fermenting-Vat.

No. 216,335.

Patented June 10, 1879.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANZ LITTMANN, OF HALLE-ON-THE-SAALE, PRUSSIA, GERMANY.

IMPROVEMENT IN FERMENTING-VATS.

Specification forming part of Letters Patent No. **216,335**, dated June 10, 1879; application filed February 25, 1879.

To all whom it may concern:

Be it known that I, FRANZ LITTMANN, of Halle-on-the-Saale, Prussia, German Empire, have invented a new and Improved Process and Apparatus for Cooling Beer in Fermentation-Vats, of which the following is a specification.

The present invention relates to certain improvements in devices for cooling beer while in the fermentation-vats; and its chief object is to dispense with the ordinary swimmers in general use for a like purpose.

The invention consists in a cooling device formed of a vertical cylinder, which is provided with a solid bottom plate having a screw-threaded neck passing through the floor of the fermenting-vat, where a hand-nut is applied for retaining the cylinder.

The water employed as a cooling medium enters the cylinder through a tube extending not quite to the top of the latter, and flows off through an opening in the bottom of the cylinder. Tubes are connected with the inlet and outlet openings for supplying the cold water and conveying the warm water away.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of the cooling devices. Fig. 2 is a sectional view of a fermenting-vat, showing my cooling devices applied thereto.

The letter A denotes a vertical cylinder, which is provided with a solid bottom plate, B, having a long neck, C.

The cylinder is constructed of galvanized sheet metal, and the neck of the bottom plate is provided with external screw-threads at its lower end. Said neck passes through the floor of the fermenting-vat, and a hand-nut, F, screwed on the same serves to secure the cylinder in position and produce a tight joint between it and the vat.

Suitable packing-rings may be employed for obviating any possibility of leakage.

Through the cylinder A passes a pipe, J, which terminates at a short distance below the top edge of the cylinder. Said pipe is fitted into bottom plate, B, and is in direct communication with the bore or opening E formed in the neck C. A bent tube, G, is connected with the neck B, and is coupled to a water-supply hose by a suitable clamp, Q.

Said hose receives the water from a suitable source, say a cooling-vat or refrigerating apparatus, and the water is conducted into the cylinder A through the medium of the inlet-pipe J.

By this means it will be perceived that the beer contained in the vat is cooled in a perfect and simple manner by causing cold water to pass into the cylinder A. A constant circulation of the cooling medium is maintained by drawing off the warm water from the bottom of the cylinder through the medium of the tube H, which communicates with a discharge-orifice, D, in the neck C. The discharge-pipe H is connected with a hose by means of a clamp or coupling, P. At the sides of the vat are located main supply and discharge pipes L M, which are suspended from the vat and held in position by means of hooked rods N N. Suitable stop-cocks are combined with said main pipes.

In winter, when it is not necessary to use water as a cooling medium, the tube G, its hose, and main pipe are detached, and cold air derived directly from the cellar is used for cooling the beer in the vat.

I am aware that it is not broadly new to construct a beer-cooling apparatus of a cylinder, a central tube located therein, and means for supplying the cylinder with cold water and drawing the warm water therefrom.

I confine myself to the precise details of construction, upon which depends the success of my invention.

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

The combination of the bottom plate, B, constructed with the screw-threaded neck C, having orifices E D and the hand-nut F, with the cylinder A, the pipe J, and the supply and discharge tubes, secured in the fermenting-vat, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANZ LITTMANN.

Witnesses:

JOHANN FRANK,

EDWARD P. MACLEAN.