

H. GREENWOOD.

VATS FOR FILTERING CIDER.

No. 184,238.

Patented Nov. 14, 1876.

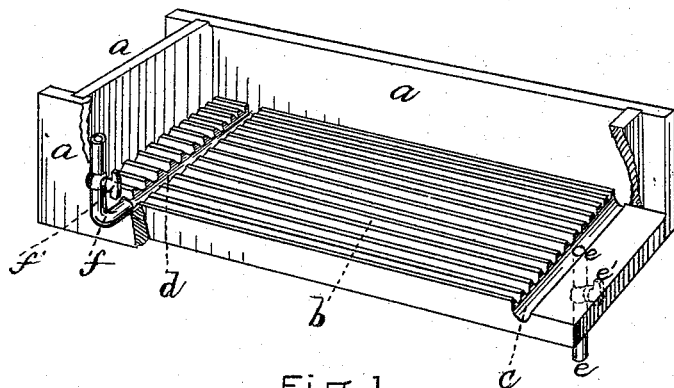


Fig. 1.

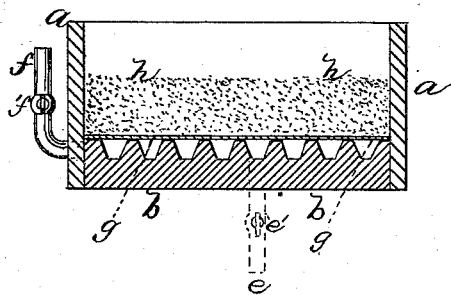


Fig. 2.

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN VATS FOR FILTERING CIDER.

Specification forming part of Letters Patent No. 184,238, dated November 14, 1876; application filed October 4, 1876.

*To all whom it may concern:*

Be it known that I, HIRAM GREENWOOD, of Marlborough, in the county of Middlesex and State of Massachusetts, have invented a new and valuable Improvement in Vats for Filtering Cider; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The vat or filter now in common use is provided with a flat, smooth bottom, and a short space above it with a false bottom. The cider filters through the false bottom to the flat bottom above named. This flat bottom or floor soon becomes sour, owing to the action of the air, especially in warm weather, and is very difficult to keep clean. It takes a considerable time and much labor at frequent and short intervals to cleanse it, owing mainly to the amount of flat surface which becomes foul.

I obviate this difficulty by providing a vat with a corrugated or grooved bottom, slightly inclining toward the outlet, excluding the air, and laying the cloth strainer directly upon said floor, as below described. By this means a less amount of bottom surface is provided, and one which is easily cleansed by sweeping with a broom, and the sourness referred to above is prevented by excluding the air.

I propose to apply my improvement to other liquids if it is found to be practicable.

In the accompanying drawings, Figure 1 represents a view in perspective of a vat embodying my invention. The strainer is removed, and a portion of the side is represented as broken out, so as to better show the grooved bottom. Fig. 2 is a transverse vertical section of the same with the strainer and sand in place.

Similar letters of reference indicate corresponding parts.

*a a* are the sides of the vat. *b* is the bottom. This bottom *b* is provided with, and consists entirely of, grooves, all of which lead

directly to the trough *c*. Each groove has a flat bottom, and the ridges between the grooves are all flat. The vat, of course, inclines downward slightly toward the end having the trough *c*. *d* is a trough connecting the grooves or gutters, so as to equalize the flow. *e* is the outlet-pipe, provided with a stop-cock, *e'*. *f* is a pipe leading into the upper end of the vat, and bending upward, extending to a point above the surface of the cider, also provided with a stop-cock, *f'*. *g* is a strainer, laid directly upon the ridges between the grooves, and made usually of thin unbleached cotton. *h* is the sand laid upon the strainer *g*.

In practical operation the crude cider from the press is poured upon the sand *h*, filters through it, leaving the impurities therein, passes through the strainer *g*, and, the cock *e'* being closed, fills up the grooves upon the floor *b*. When the grooves are full the air has, of course, been forced out through the pipe *f*, which may then be closed, if desired. The cock *e'* is then opened, and the cider allowed to run out through the pipe *e*.

It will thus be seen that the air is excluded, thus rendering it less liable to sour and become foul, a less surface of bottom is provided, and the bottom can be easily swept out and cleaned, while the old vat required frequent cleaning and soaking. The bottom may incline toward the trough *d*, if desired, instead of the trough *c*.

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

The above-described vat or filter, having the grooved floor or bottom *b*, and the strainer *g*, placed directly upon the ridges of said floor, and provided with suitable pipes *e* and *f*, and trough *c*, all substantially as and for the purpose herein set forth.

HIRAM GREENWOOD.

Witnesses:

HENRY W. WILLIAMS,  
JOHN E. FRENNING.