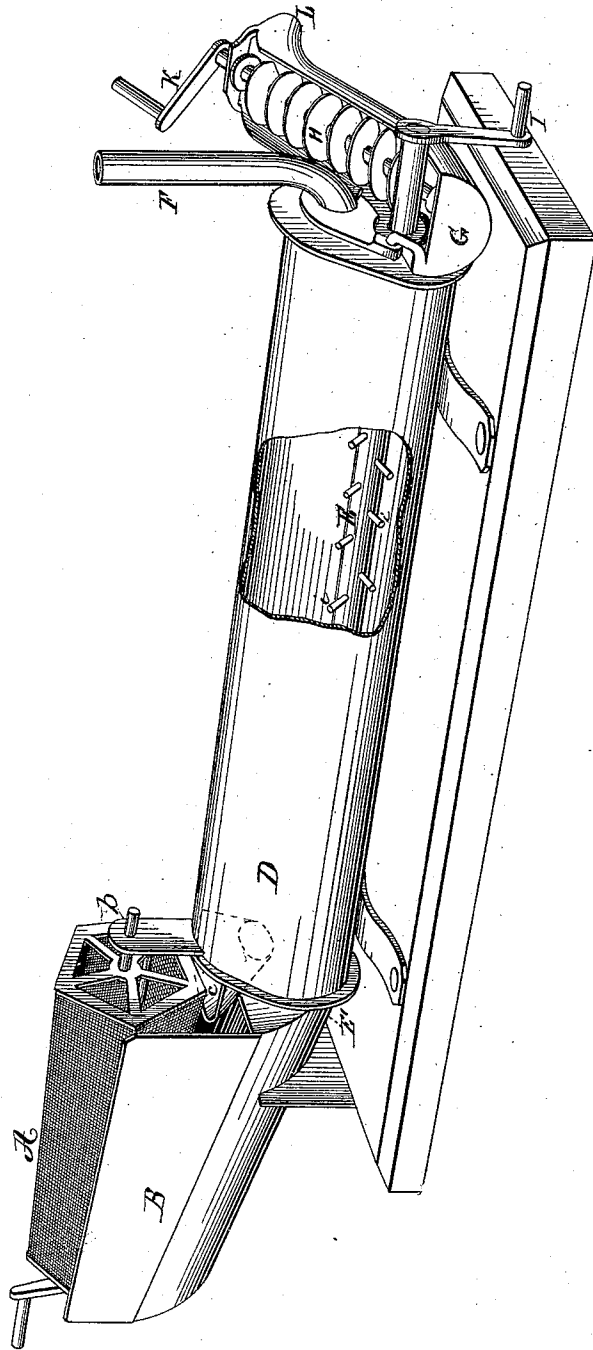


A. JUNKER & F. W. WOLF.

APPARATUS FOR DRYING DISTILLERY SLOPS.

No. 187,148.

Patented Feb. 6, 1877.



Witnesses:

Clarence Poole  
Rich. W. Evans.

Inventor:

Anton Junker  
Fred. W. Wolf  
by H. H. Evans & Co  
Attys.

# UNITED STATES PATENT OFFICE.

ANTON JUNKER AND FREDERICK W. WOLF, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN APPARATUS FOR DRYING DISTILLERY-SLOPS.

Specification forming part of Letters Patent No. **187,148**, dated February 6, 1877; application filed November 9, 1876.

*To all whom it may concern:*

Be it known that we, ANTON JUNKER and FREDK. W. WOLF, of the city of Chicago, in the State of Illinois, have invented a new and improved machine for drying the slops or grains from distilleries, breweries, &c., and obtaining the solid residue; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which the figure is a perspective view of our apparatus, having a portion cut away to show the interior of the heating-jacket.

Ordinarily, the slops from distilleries and breweries have been utilized as animal food in the wet state, or allowed to run upon the ground or into water, as waste material. In either instance the slops sour, and, filling the air with a stench, become highly disagreeable and deleterious to health. In the wet state it is impracticable to transport the slops for animal food, and hence they are wasted.

The object of our invention is to dry the slops or grains from distilleries, breweries, &c., and obtain the solid residuum for animal food; and our invention consists in a certain combination of devices, as hereinafter set forth and claimed, for drying the slops.

In the said drawings, A is a rotary bolt or sieve, having one end journaled in a surrounding jacket or hood, B, and the other end journaled in a standard, b, on the end of a heating chamber or drum, D. The bottom of the hood B is inclined, and terminates in a pocket at E', communicating with a pipe at its lowest point. The lower end of the bolt or sieve A projects over a funnel, c, leading through the head of the drying-chamber D. The chamber D is round or elongated, and made of any desirable material. It is provided, through its longitudinal center, with a hollow shaft, E, which can be heated by steam or otherwise, and is provided with radial pins *i i*, and a crank, pulley, or gear-wheel, I, by which it is turned. A pipe, F, at option connected to an exhaust-fan, rises from the drying-chamber, and conducts off

the vapors generated by the steam heat or other heat applied to the drying-chamber and the steam-jacket of same. Across the end of the drying-chamber is a trough, G, which also may be heated by steam or otherwise, curving upward and backward at right angles to chamber D, and connecting with an opening into chamber D. A screw-conveyer, H, provided with a crank, K, or other means of turning it, is journaled out of the trough G in some warehouse where the residue is to be deposited.

The operation is as follows: The sieve A being rotated, the slops are run into its upper end. The centrifugal motion throws out all the surplus water, and the wet residue feeds down to the lower end, and passes into the funnel *c* and to the drying-chamber D, the water from the hood or casing B passing to the pocket E, and thence away through a pipe. The partially-dried slops are then, by means of the heated shaft E, thoroughly stirred in passing through the heated chamber D, and gradually fed through the opening into the trough G, where they are taken up by the screw-conveyer and discharged at the spout L. The vapors pass off through pipe F.

If preferable, heat can be applied to the trough G and conveyer H.

To do the drying at a low temperature, and have the solids dry out as soon as possible, it is preferable to apply air-pumps, fans, and condensers to any requisite extent.

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

The slop-drying apparatus consisting of the revolving sieve A, inclosing-jacket B, having the inclined bottom and pocket E', drying-chamber D, having heated central shaft E, with pins *i i*, trough G, and heated conveyer H, all constructed, arranged, and operated as and for the purpose set forth.

ANTON JUNKER.  
FREDK. W. WOLF.

Witnesses:

BRUNO KNAUER,  
WM. CLETTENBERG.