2 Sheets—Sheet 1.

M. SCHMAHL.

Apparatus for Wetting Malt, Preparatory to Mashing.

No. 208,038. Patented Sept. 17, 1878.

Fig. 3.

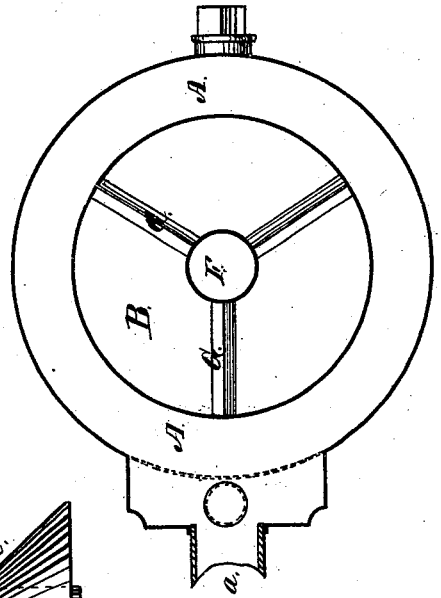


Fig. 2.

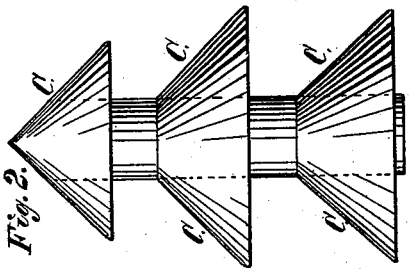
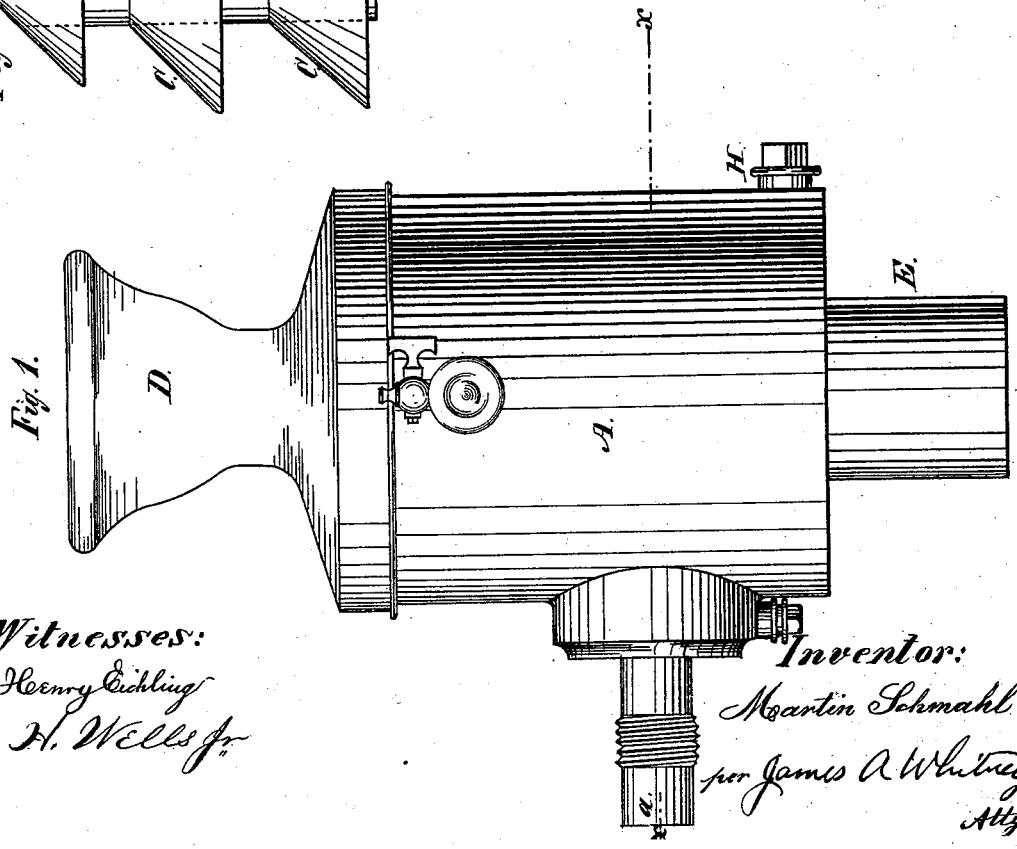


Fig. 1.



Witnesses:
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H. Wells Jr.

Inventor:
Martin Schmahl
per James A Whitney
Atty.

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Fig. 5.

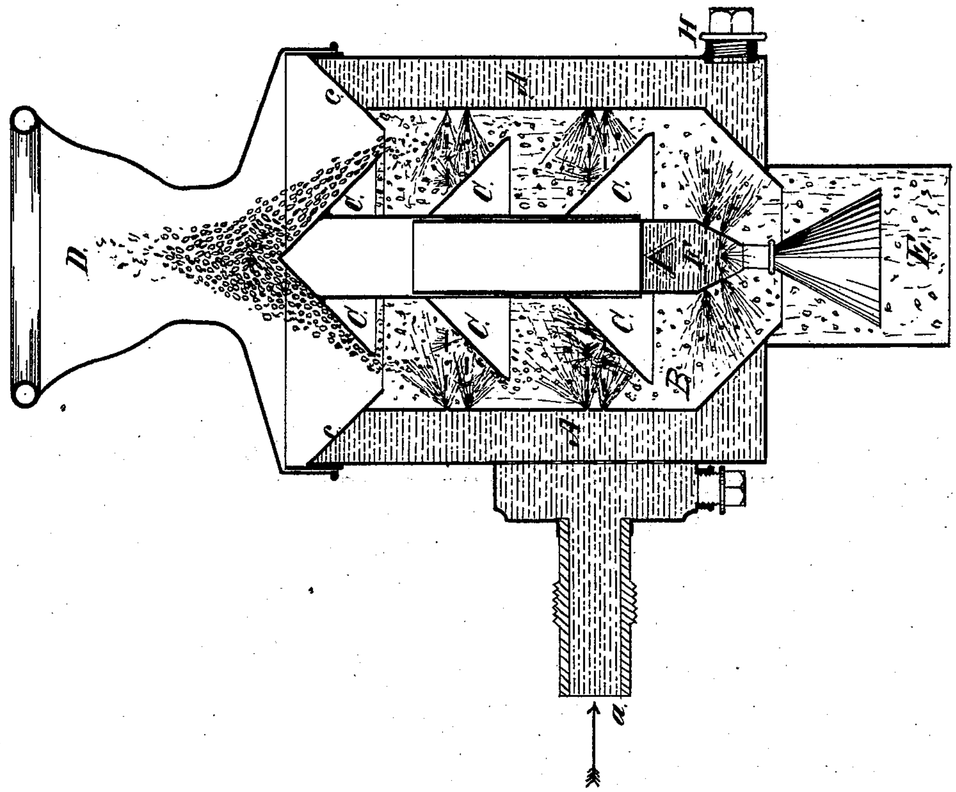
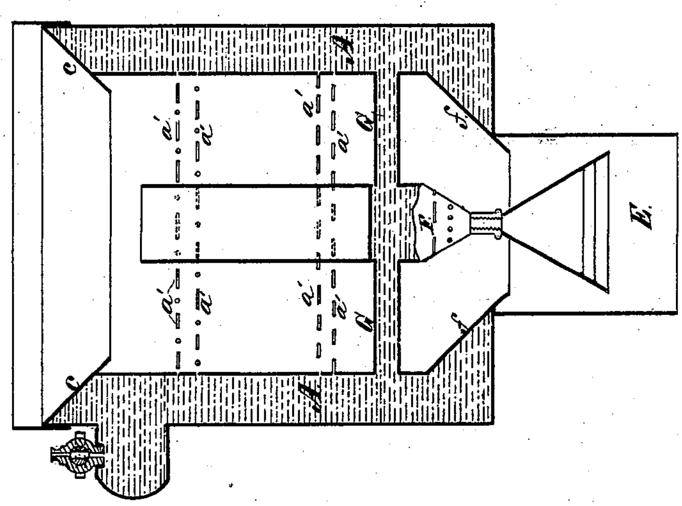


Fig. 4.



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UNITED STATES PATENT OFFICE.

MARTIN SCHMAHL, OF NEW YORK. N. Y.

IMPROVEMENT IN APPARATUS FOR WETTING MALT PREPARATORY TO MASHING.

Specification forming part of Letters Patent No. **208,038**, dated September 17, 1878; application filed April 16, 1877.

To all whom it may concern:

Be it known that I, MARTIN SCHMAHL, of the city, county, and State of New York, have invented an Improvement in Apparatus for Preparing Malt for the Mash-Tub, of which the following is a specification:

The object of this invention is to provide an apparatus for mixing malt with water preparatory to placing the same in the mash-tub, whereby the malt may be more intimately commingled and incorporated with the water than has been possible with the appliances hitherto in use; and to this end the invention consists in a novel combination of parts by which the aforesaid object is effectually secured.

Figure 1 is a side view of an apparatus made according to my invention. Fig. 2 is a detached side view of one of the internal parts thereof. Fig. 3 is a horizontal sectional view of the same, taken in the line *x*, Fig. 1. Fig. 4 is a central vertical sectional view of a portion of my said invention, and Fig. 5 a similar view taken in a plane at right angles to Fig. 4.

A is the water-tank, the inlet-pipe of which is shown at *a*. When the apparatus is in use water is supplied to the chamber A under a suitable head or pressure. The inner wall, *b*, of this chamber A is provided with circumferential systems or series *a'* of slots, openings, or orifices, as shown more fully in Fig. 4. Water, being supplied to the chamber A under head or pressure, as just mentioned, is ejected forcibly through these orifices *a'* into the chamber B, inclosed within the inner wall aforesaid of the water-tank A, the direction of the jets issuing through these orifices *a'* being toward the axial line of the apparatus. C are cones arranged centrally in the chamber B, each being more or less in the horizontal plane of one of the series of orifices *a'*. The upper part of the chamber B is made hopper-shaped, as shown at *c*, and over this may be placed another hopper, D. The lower part of the chamber B is narrowed, as shown at *f*, and from this narrow part *f* extends the outlet-passage E, which may be arranged directly over the mash-tub, or in any other suitable relation thereto. Provided centrally below the lowest of the cones C is a small reservoir, F, which receives water from the water-tank A through two branch pipes, G. The lower part of this reservoir is perforated with numerous holes, which permit the ejection of water therefrom outward toward the wall of the water-tank A.

In the operation of the invention, the malt is fed, by any suitable means, into the upper hopper, D, and, thence passing outward to the part *c*, strikes the uppermost of the cones, and is distributed outward toward the inner wall of the water-tank A, and, passing downward toward the next cone below it, receives the full impact of the water issuing inward through the orifices *a'*. As it further descends it is again thrown outward by the cone below, and in like manner receives the impact, and is mingled with the water issuing from the next lower series of orifices, *a'*, until, at last reaching the bottom of the chamber B, it receives the impact of and is mingled with the water issuing from the orifices in the reservoir F; thence passing downward to the outlet E, it is received in the mash-tub or other suitable receptacle; the malt, in its passage through the apparatus, as just described, being subjected to the forcible action of the water with which it is thereby mingled, and this action of the water continuing from the time the malt enters the apparatus at the top until it leaves at the bottom, the admixture or incorporation of the malt with the water, as required in forming a superior mash for the mash-tub, is effectually secured.

In order to facilitate the cleaning of the water-tank A, an opening, H, is provided at the lower end of said water-tank, which, when the apparatus is in use, may be closed by a screw-plug, I.

What I claim as my invention is—

The water-chamber A, the inner wall of which is provided with the circumferential systems of orifices *a'*, each of said systems being coincident with one of the cones C, placed one above another within the chamber B, the parts all combined in relation with each other and with the reservoir F, placed below the cones and connected with the water-chamber A by the branch pipes G, as described, for the purpose specified.

MARTIN SCHMAHL.

Witnesses:

EDWARD HOLLY,

FERDINAND KRAEMER.