(No Model.)

J. KUNTZE.

APPARATUS FOR PNEUMATIC MALTING.

No. 458,174. Patented Aug. 25, 1891.

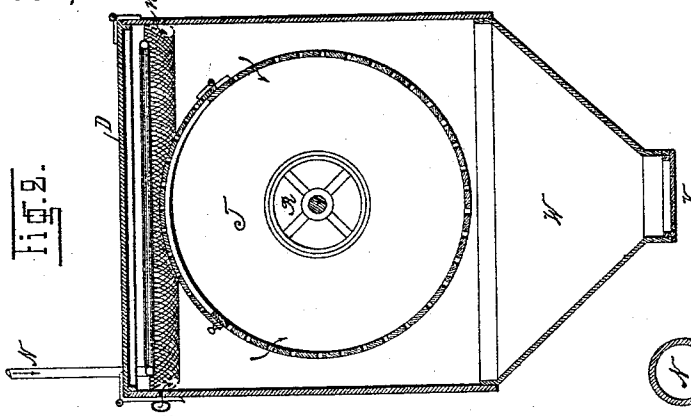


Fig. 2.

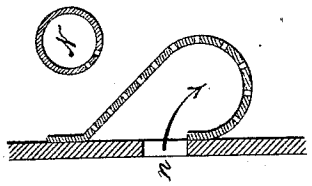


Fig. 3.

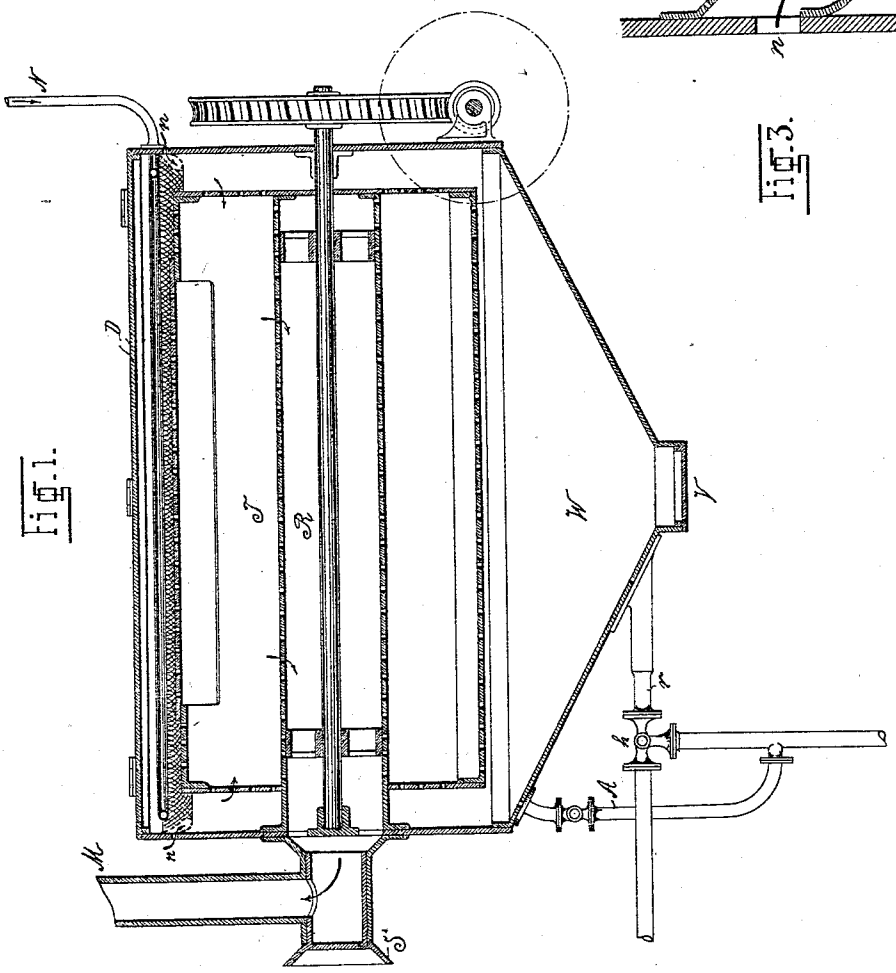


Fig. 1.

Witnesses:
Theodor Steudel.
Wilhelm Hirsch.

Inventor:
Johannes Kuntze
per Gerson & Jachse
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UNITED STATES PATENT OFFICE.

JOHANNES KÜNTZE, OF NORDHAUSEN, GERMANY.

APPARATUS FOR PNEUMATIC MALTING.

SPECIFICATION forming part of Letters Patent No. 458,174, dated August 25, 1891.

Application filed February 18, 1891. Serial No. 382,006. (No model.) Patented in England May 28, 1889, No. 8,839; in Germany June 12, 1889, No. 52,960; in France June 26, 1889, No. 186,016, and in Austria-Hungary September 25, 1890, No. 17,789 and No. 34,617.

To all whom it may concern:

Be it known that I, JOHANNES KÜNTZE, a subject of the Emperor of Germany, residing at Nordhausen, in the Empire of Germany, have invented a new and useful Apparatus for Pneumatic Malting, (for which I have obtained a patent in Germany, No. 52,960, bearing date June 12, 1889; in France, No. 186,016, bearing date June 26, 1889; in Great Britain, No. 8,839, bearing date May 28, 1889, and in Austria-Hungary, No. 17,789 and No. 34,617, bearing date September 25, 1890,) of which the following is a specification.

This invention relates to the devices for pneumatic malting, and has for its purpose to unite the appliances for washing, steeping, and germinating the grain in one apparatus, which is, moreover, provided with a peculiar contrivance allowing moist and cool air to be passed through the germinating material according to requirement.

Referring to the accompanying drawings, Figure 1 is a longitudinal vertical section; Fig. 2, a vertical cross-section of the improved apparatus; and Fig. 3 is a cross-section, on an enlarged scale, of a detail thereof.

The receptacle W, having a funnel-shaped bottom, contains a perforated drum T, which is lodged in the sides of the receptacle and provided with a cover adapted to be turned up. After the grain to be malted is filled into the drum T and a quantity of water sufficient to well immerse the grain admitted through the pipe *r*, which is fitted with a three-way cock *h*, the drum T is set in slow rotation. The grain having attained steeping maturity, which is produced very uniformly with the improved process, the water is allowed to flow off through the pipe *r*, and the receptacle W closed with an air-tight-fitting cover D. Subsequently water is admitted into the pipe N, which is provided at the top throughout the receptacle D along its inner sides, and has numerous fine perforations, from which the water descends in the form of spray and penetrates through a ring or layer *n* made from wire-gauze, and covering numerous perforations provided in the sides of receptacles W. While simultaneously air is removed through the tube M communicating with an aspirator from the perforated tube R, which is concentrically arranged within the drum T, air flows in through the apertures covered by the wire-gauze ring *n*, and penetrating the moist gauze and the spray is cooled and moistened. The tube R is closed at one end and with the other end revolubly lodged and packed in the side of the receptacle W, so as to open into the tube M.

The moist and cool air is uniformly distributed within the receptacle, and penetrating the germinating material cools the same and carries off the generating carbonic acid.

The revolution of the drum T causes its contents to be in continuous movement, thereby efficaciously preventing the germinating grain from growing together.

When the material has sprouted sufficiently, the admission of water to the pipe is discontinued, the cover D removed, and atmospheric air drawn by suction through the material. The turn-slide S′ on the tube M serves for regulating the suction, while the overflow A, provided with a cock, is destined to remove the water arriving from the pipe N and prevent it from rising within the bottom of the receptacle W to the drum T.

The malt is removed from the apparatus by opening the flap V of the receptacle W and allowing it to fall into a van or the like placed underneath.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, I declare that what I claim is—

An apparatus for pneumatic malting, comprising a closed receptacle having a removable cover, a wire-gauze ring secured to the inner walls of the receptacle a short distance below its top, apertures leading through the walls into the ring, a perforated water-distributer arranged near the ring and provided with a supply-pipe, a drum revolubly supported in the casing, having perforated side- and end walls and a perforated top arranged axially therein, and an exhaust-pipe leading from said tube through the wall of the receptacle, as set forth.

JOHANNES KÜNTZE.

Witnesses:
THEODOR STEUDEL,
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