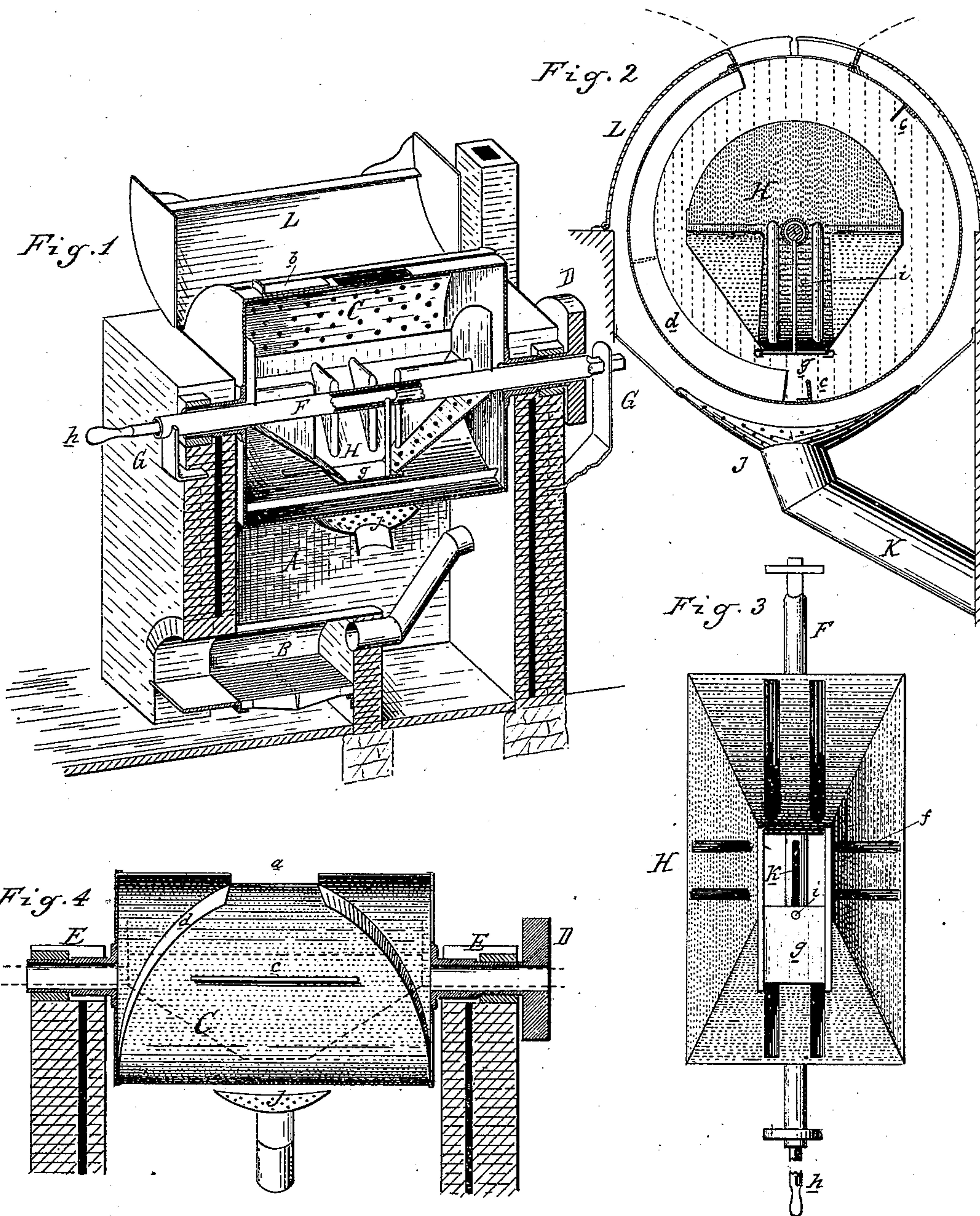


J. JAKEL.
Malt-Kiln.

No. 226,860.

Patented April 27, 1880.



Attest:

A. Barthel
Charles J. Hunt

Inventor:

J. Jakel
By Atty
Thos S. Sprague

UNITED STATES PATENT OFFICE.

JOHN JAKEL, OF DETROIT, MICHIGAN, ASSIGNOR TO HIMSELF AND LOUIS FORKEL, OF SAME PLACE.

MALT-KILN.

SPECIFICATION forming part of Letters Patent No. 226,860, dated April 27, 1880.

Application filed October 29, 1879.

To all whom it may concern:

Be it known that I, JOHN JAKEL, of Detroit, Wayne county, Michigan, have invented an Improvement in Malt-Kilns, of which the following is a specification.

The nature of my invention relates to certain new and useful improvements in the construction of kilns particularly designed for preparing malt; and the invention consists in the peculiar construction, arrangement, and combinations of the various parts, all as more fully hereinafter set forth.

In the drawings, Figure 1 is a sectional perspective. Fig. 2 is a vertical cross-section through the cylinder. Fig. 3 is a bottom view of the basket. Fig. 4 is a vertical longitudinal section of the cylinder.

In the accompanying drawings, which form a part of this specification, A represents a suitable oven, provided with a proper furnace for generating heat. Journaled in the end walls of the oven, and at the top thereof, is a cylinder, C, which may be rotated by means of a pulley, D, upon one of the hollow trunnions E which project through the walls. This cylinder is constructed of perforated sheet metal or other suitable material, and is provided with an opening, *a*, which can be closed by a slide, *b*. To the inner wall of this cylinder are secured the longitudinal wings *c* and spiral or curved wings *d*. A hollow shaft, F, extends through the hollow trunnions and the cylinder, its outer ends being supported in suitable brackets G secured to the end walls of the oven, the shaft being rigidly secured to one or both of such brackets, so as not to interfere with the rotation of the cylinder.

Rigidly secured to the shaft F, within the cylinder, is a basket, H. This basket is likewise made of perforated sheet metal, and is provided with hollow partitions *f*, which are also perforated. The basket is hopper-shaped, and is provided with an opening in its bottom, which can be closed or disclosed by a slide, *g*, operated by a rod, *h*, which slides through the hollow shaft F, and is connected to the slide *g* by the arm *i*, which projects downward through a slot, *k*, in the under side of said shaft.

Below the cylinder, and secured to the walls

of the oven, is a perforated hopper, J, terminating in the discharge-pipe K, which leads outside the wall of the oven.

A hinged covering, L, is provided at the top of the oven to inclose, wholly or partially, the cylinder C.

In practice, after the malt has been prepared for drying through the ordinary processes, a sufficient quantity is introduced through the opening *a* in the cylinder into the basket, the slide in the bottom of which is closed and the coverings L are shut.

The heat generated in the oven permeates through the perforated cylinder and the basket. The hollow partitions *f*, being open at the shell of the basket, allow the heat to pass thoroughly through the malt, thus gradually drying it. During the process of drying the malt has to be frequently or at successive intervals turned over, in order that it may be equally dried, and this ordinarily is performed by manual labor.

In my process I withdraw the slide from the bottom of the basket, allowing the malt to pass into the cylinder, which, being rotated, and by means of the wings upon its inner wall, carries the malt up, letting it fall at every rotation into the basket, and when it is desired to discontinue this operation the slide in the basket is closed, when the continued rotation of the cylinder will deliver all the malt back into the basket, where it remains until a new stirring or agitation is deemed necessary, when the operation last described is again repeated.

Toward the close of the process a higher degree of heat is required and the agitation is more frequently repeated, which subjects the malt to the greater heat of the cylinder, the operation being carried on until the malt is of the desired color. When this is attained the slides in both the basket and cylinder are opened, thus allowing the malt to pass into the discharge-hopper, from whence it is conducted to a proper receptacle.

What I claim as my invention is—

1. In a malt-kiln, the combination, with a revolving cylinder, of an inclosed stationary basket, with upward open mouth, constructed and arranged substantially as set forth, so that in the revolutions of the cylinder the contents

thereof will be carried over and deposited in the basket, substantially as described.

2. In a malt-kiln, and in combination with the oven thereof, a perforated cylinder, C, provided with suitable wings upon its inner wall and inclosing a perforated basket, H, provided with hollow perforated partitions and slide *g*, substantially as and for the purposes set forth.

3. A malt-kiln consisting of an oven, A, perforated cylinder C, provided with wings upon

its inner wall and inclosing a stationary basket, H, provided with hollow partitions *f*, and a discharge-hopper, J, substantially as and for the purposes specified.

In testimony whereof I hereunto set my hand. 15

JOHN JAKEL.

In presence of—

H. S. SPRAGUE,
CHARLES J. HUNT.