

# UNITED STATES PATENT OFFICE.

ADOLPH HAMMER, OF READING, PENNSYLVANIA.

## STEAM BOILING APPARATUS.

Specification of Letters Patent No. 17,372, dated May 26, 1857.

*To all whom it may concern:*

Be it known that I, ADOLPH HAMMER, of Reading, in the county of Berks and State of Pennsylvania, have invented a new and useful Improvement in the Construction and Arrangement of the Steam-Pipes of Brewers', &c., Boiling Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing, making a part of this specification, and to the letters of reference marked thereon.

The usual apparatus for boiling by steam, consists of a coil of pipe placed horizontally in the "tub", near its bottom, with the ends of the said pipe extending through the sides of the tub, or jointed thereto so as to allow of the coil being detached and hoisted out for cleansing, as occasion frequently requires. Besides the difficulty of making this attachment so as to be steam tight, and the time and labor consumed in hoisting out and lowering in the large and heavy coil used by brewers, (a tackle being required for the purpose,) a regularly continuous coil is not the best adapted for diffusing the heat uniformly over the bottom of the tub.

The nature of my invention consists in so constructing and arranging the steam pipes of a brewer's boiling tub that the steam for boiling shall enter and escape at the same outer end of the pipe so as to obviate the necessity of detaching and hoisting the pipes or coil out of the tub, for cleansing, as heretofore. For this purpose I arrange together over the bottom of the boiling tub two like series of pipes, each series being separate and distinct from the other, of a semicircular form in its arrangement to allow of its being turned up edgewise in the tub without detaching it therefrom for the purpose of cleansing, and also so arranged as to cause the steam to be more equally or uniformly diffused over the bottom of the containing tub.

The figure represents a horizontal section of the tub, and one of the semicircular series of pipes, as arranged for boiling—A, being the tub, and, B, the series of steam pipes. The steam enters a partitioned pipe (B'), at, *a*, thence passes around through, *b*, to, *c*, thence through *d*, and *e*, to *f*, thence through *g*, *h* and *i*, to the rear chamber (*k*) of the

main or entrance pipe, B', and finally escapes through a small cock at *l*, all as indicated by the arrows. These specified portions of the steam pipes are all made cylindrical, in section, and bolted together steam-tight substantially as indicated in the drawing. The part which passes through the side of the tub works or rotates in a steam-tight bearing, M, while the inner end rests in or upon a bearing N, which rises vertically from the bottom of the tub, so that the series may be readily turned up upon its edge and thus admit of free access to the whole bottom of the vessel for the purpose of cleansing it, and thus also bringing the whole series of pipe into the most favorable position for the same purpose, without detaching it and hoisting from the tub.

The cock (*l*) is fixed in a hollow band (*m*) which, although fitted thereon steam-tight, is yet adjustable so as to bring the cock to any position required.

It will be readily seen that this construction and arrangement of the steam pipes entirely obviates the necessity of the detachment and hoisting hitherto required in the brewer's boiling apparatus, and at the same time produces a better, because a more uniform, diffusion of the heat over the bottom of the vessel. It is obvious that the arrangement of pipes herein described may be employed with great advantage in connection with any boiling apparatus whatever the nature of manufacture be. It may thus be introduced in the manufacture of salt, sugar, soap, in distilleries, etc.

Disclaiming connecting a series of branch pipes with and onto a main pipe upon which said branch pipes may be rotated in the manner described by Alfred Stillman in his patent of May 16, 1846, I claim—

The peculiar arrangement of pipes herein described, whereby the steam is caused so to travel as to form one continuous and unbroken stream through the pipes and to form a proper compensation or equalization of temperature throughout the whole surface of the coil substantially as herein set forth.

ADOLPH HAMMER.

Witnesses:

WM. MORISON,

M. O. B. KENNEY.

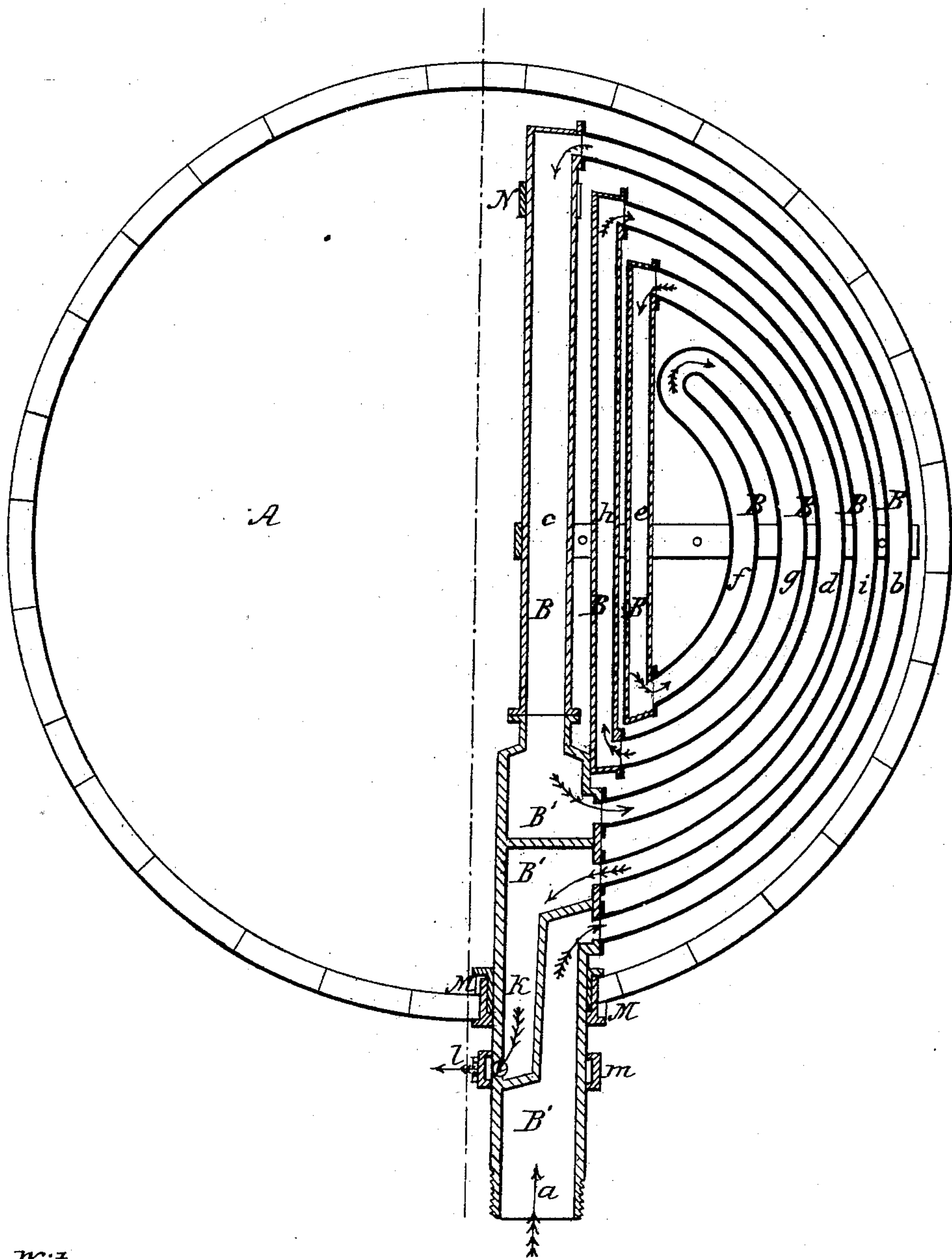


A. HAMMER.

Mash Heater.

No. 17,372.

Patented May 26, 1857.



Witnesses.  
Ben. Murin.

John Kenney.

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Adolph Hammer.