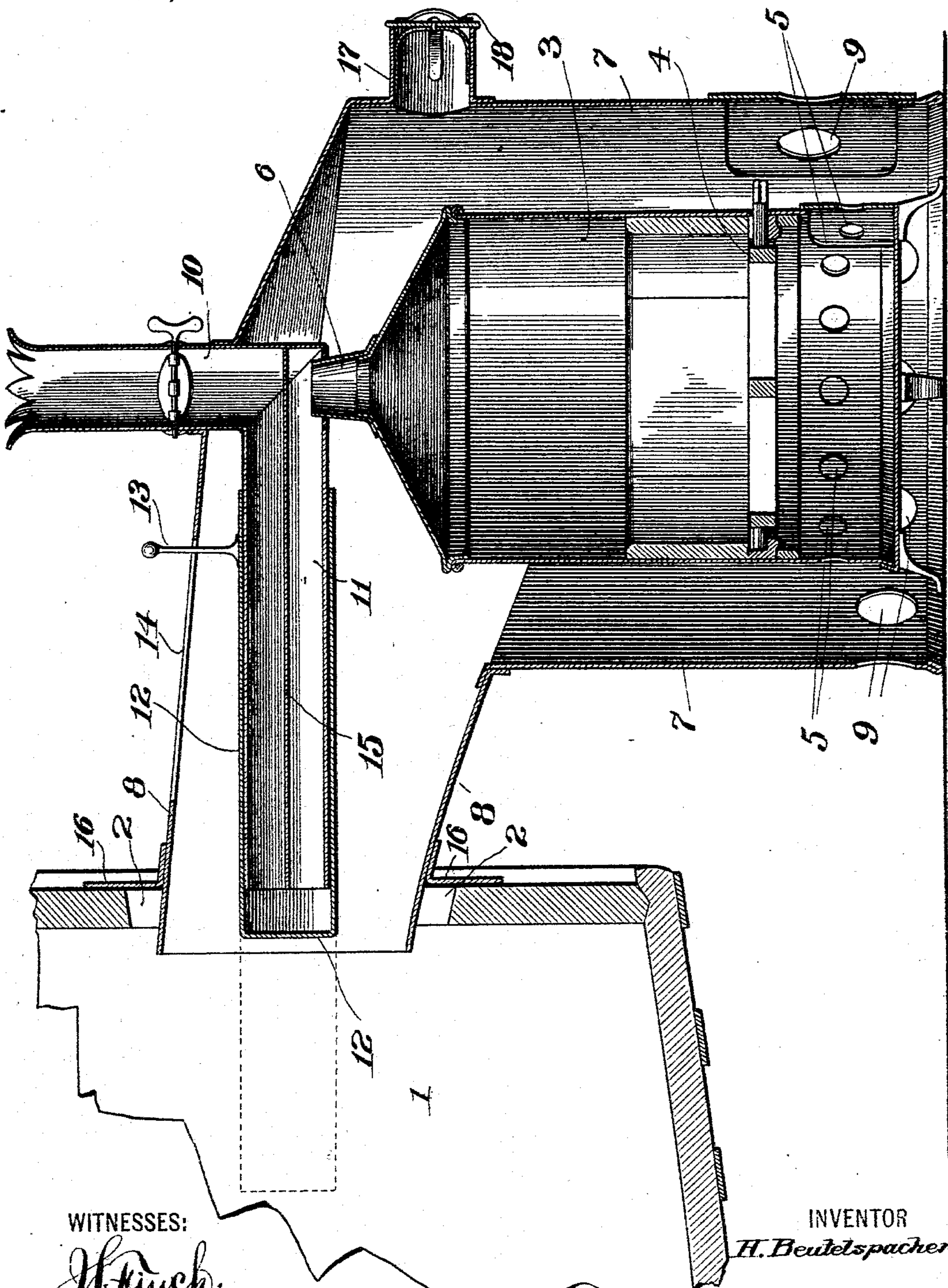


(No Model.)

H. BEUTELSPACHER.  
APPARATUS FOR DRYING BEER VATS.

No. 515,570.

Patented Feb. 27, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY BEUTELSPACHER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF  
ONE-HALF TO CHRISTIAN HAUG, OF SAME PLACE.

## APPARATUS FOR DRYING BEER-VATS.

SPECIFICATION forming part of Letters Patent No. 515,570, dated February 27, 1894.

Application filed March 29, 1893. Serial No. 468,102. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY BEUTELSPACHER, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in the Art of Drying Beer-Vats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in the art of drying the interior of beer vats preparatory to the varnishing of the same, and consists in introducing at the bottom of the vat non-gaseous hot air, and has for its object to speedily dry the vat and to prevent any injurious effects upon the workman while the latter is within the vat.

The accompanying drawing is a sectional elevation of a hot air furnace especially adapted for carrying out my invention, said furnace being shown in proper position relative to the beer vat.

Heretofore in drying beer vats it has been customary to place in the bottom thereof a brazier of ignited coals and to allow the same to remain until the heat therefrom had sufficiently dried the interior of the vat; but this method of drying is not only very slow but it is also very dangerous to life, because a workman is frequently overcome by the gaseous products of combustion which have been imperfectly expelled from the vat.

My improved method of drying is very efficient and rapid and the hot air introduced is perfectly free of any smoke or gas.

1 is the vat and 2 the manhole at the bottom thereof which is ordinarily closed by a water tight door (not shown).

3 is any suitable furnace having grate bars 4 and circular openings 5 for the supply of air; and 6 a smoke-stack leading from the top of the furnace.

7 is a hot-air drum incasing the furnace and having a nozzle projection 8 adapted to enter the manhole 2. At the bottom of this drum are openings 9 through which fresh air is supplied, this drum being provided with a

stack 10 at the top into which the stack 6 closely fits. This stack 10 has a flue or lateral projection 11 extending within the nozzle 8 and open at the end.

12 is a closed thimble surrounding this projection 11 and capable of a free sliding movement thereon, and 13 is a handle projecting upward from said thimble through an elongated slot 14 in the top of the nozzle. By moving this handle to and fro throughout the slot, the thimble may be projected more or less within the vat,—as shown by dotted lines—for the purpose of increasing or decreasing the heat radiation within the vat. Extending throughout this projection 11 and immediately above the stack 6 is a baffle plate 15. The purpose of this projection 11 is to get the benefit of the heat which would otherwise escape directly from the stack 6 out through the stack 10.

16 is a flange plate around the front part of the nozzle and lying against the wall of the vat around the area of the manhole 2, the object of which plate is to prevent the escape of the hot air from the vat.

The size of the furnace and drum as compared with that of the vat is very diminutive; but the complete drying of the vat is thereby effected in about one-sixth of the time heretofore consumed by the old method of drying above referred to.

At the side of the drum 7 near the top thereof is a nipple 17 which ordinarily is closed by a friction cap 18.

In all breweries there are to be found, as a rule, flexible tubes for the introduction of air under pressure within beer kegs, and I provide the nipple 17 in order that one of such tubes may be secured thereto for the purpose of forcing the hot air into the vat under pressure, thereby increasing the efficiency of the apparatus described. The stack of the heating drum may, of course, be led into any suitable flue or pipe which communicates with the out door air, thus preventing the escape of any gases or smoke into the vault where the vats are located. This is an exceedingly important feature, since, when a half a dozen or more vats are being dried at the same time by the heat from open char-

coal braziers, the smoke and gases which escape from the vats render the air in the vaults almost unbearable. Also, in some instances, the gases are imperfectly expelled from the vats and become commingled with the beer with which the vats are subsequently filled, thus tainting the beer.

By the use of my invention pure fresh air is constantly introduced within the vats, and a workman can, if desirable, remain in the vat during the process of drying, either to wash, rub, scrape or repair the same, or for any other purpose. In this connection I would say, that a light for illuminating purposes, may be kept constantly burning within the vats for the use of the workman, without any danger, and this has been impossible heretofore for two reasons, namely, the supply of oxygen is inadequate owing to the rapid consumption thereof by the burning coals, and the gases from the coals are inflammable and explosive.

In using my process of drying, a workman may commence to varnish the vat at the top a short time after the heat is introduced, since the top of the vat dries first, and accordingly by the time the vat is wholly dried the varnishing can be nearly completed. When the old process of drying heretofore referred to is used, it frequently takes a half hour or more to expel the smoke and gases from the vat after it is fully dried, before the work on the interior of the vat can be commenced.

I do not wish to be confined to any particular construction of heating apparatus, the gist of my invention resting in the broad idea

of introducing hot air, free of all smoke and gaseous products, from a portable furnace within a beer vat.

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

1. A drier for beer-vats comprising a heating-drum provided with a series of air-inlets near its bottom and having a nozzle projecting from its upper portion and a flue within the nozzle, a movable closed end thimble on the flue, a baffle-plate within the flue, and a furnace having a smoke-stack opening into the flue below the said plate.

2. The combination of the heating drum having at the top a stack provided with a lateral extension open at the end, and the closed end thimble surrounding said extension and capable of free movement longitudinally thereof the furnace within said drum having a stack which leads into the first mentioned stack, substantially as described.

3. In a drier for beer-vats, the combination with a furnace, of a heating-drum surrounding the same, said drum being provided with a nozzle adapted to enter the man-hole of the vat, a flange-plate carried by the outer portion of the nozzle, a flue arranged within the nozzle carrying an adjustable thimble, and a baffle-plate within the flue.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY BEUTELSPACHER.

Witnesses:

F. W. SMITH, Jr.,

A. J. TANNER.