

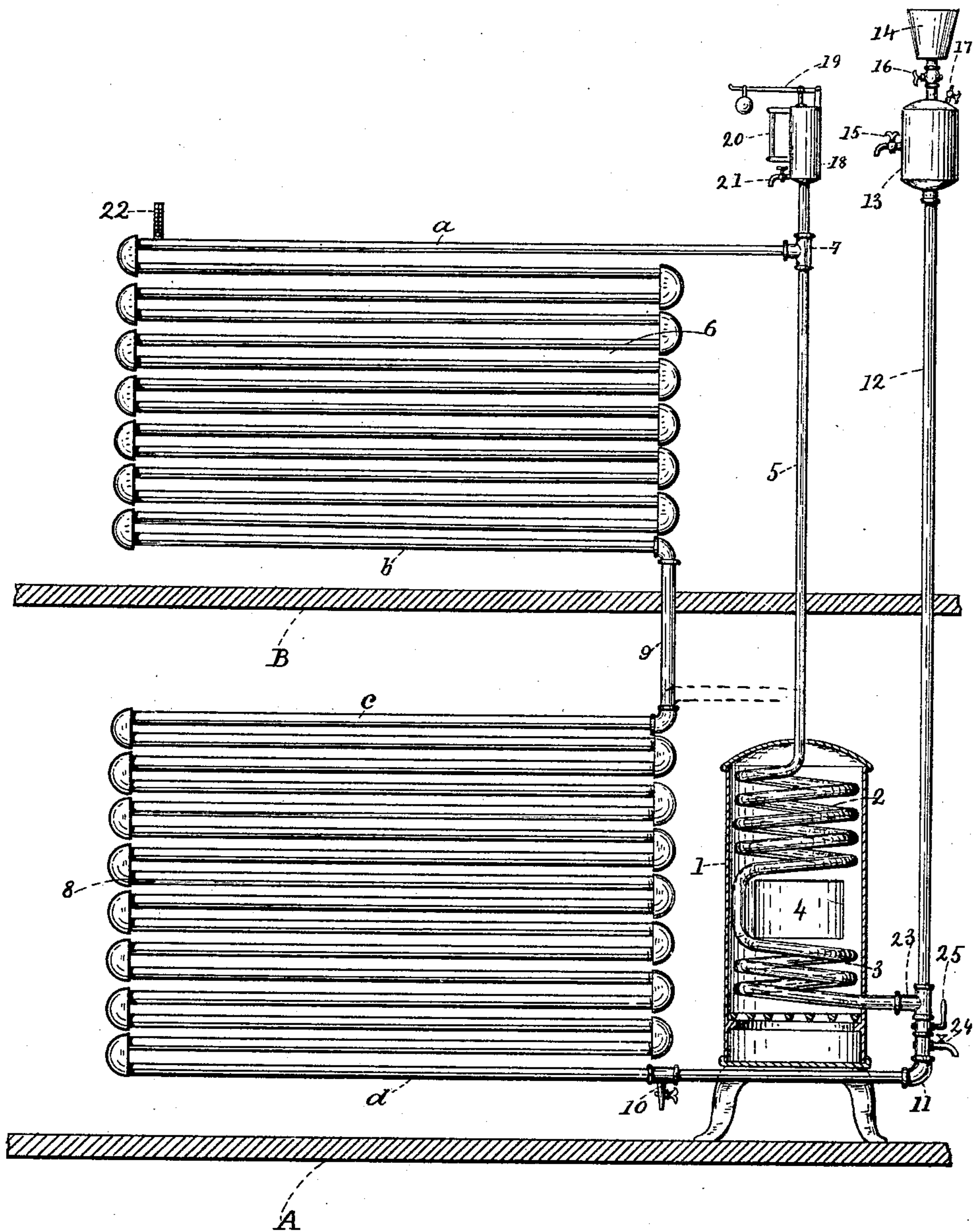
(No Model.)

C. HEINTZ.

APPARATUS FOR PURIFYING AND AGING LIQUORS.

No. 482,843.

Patented Sept. 20, 1892.



Witnesses.
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR PURIFYING AND AGING LIQUORS.

SPECIFICATION forming part of Letters Patent No. 482,843, dated September 20, 1892.

Application filed June 7, 1892. Serial No. 435,797. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN HEINTZ, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Apparatus for Aging and Purifying Liquors, of which the following is a specification.

My invention relates to apparatus for purifying and aging liquors and will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawing, in which is shown a suitable apparatus for carrying out my invention.

My invention consists in providing an apparatus in which the spirits, liquors, or liquids to be operated upon may be subjected to a high degree of heat, great pressure, and rapid circulation in a coil or a series of coils or pipes located in a stove, furnace, or other suitable device or apparatus for heating the coils or pipes, whereby the liquors or liquids above mentioned move upward from the heated coils or pipes to its highest point, gradually losing temperature as it passes away from its heating apparatus, and then descends to the lowest point in the series of coils or pipes, and from thence to the heating device or apparatus, where it receives a fresh supply of heat and again moves upward, thereby keeping up a constant and rapid circulation from the hot to the cooler and from the cooler to the hot points of the apparatus.

In the said drawing I have shown a convenient and suitable apparatus for carrying out my invention.

A represents the lower floor of the building, and B the upper floor. On the lower floor is located the heating device. I have shown a suitable stove 1; but any other apparatus for heating may be used, either operated by gas or other heating material—coal or wood, for instance. In this heating device is represented a series of coils 2 and 3. The coils, it will be noticed, are divided in this instance to leave room for the door 4. From the upper coils is a vertical pipe 5, which passes up above the highest series of pipes 6, which are connected by a T 7 with the upper pipe *a* of the upper series, the pipes being connected in the usual way by return-bends. The lower

pipe *b* of this upper series of pipes is now connected with the upper pipe *c* of the lower series 8 by a vertical pipe 9, which series passes down and connects with the lower pipe *d*. In this pipe *d* is a small cock 10, and at the end of the pipe *d* is an elbow 11, connected with a vertical pipe 12, which passes up to the filling-vessel 13. This filling-vessel is provided with a funnel 14 and stop-cocks 15, 16, and 17. The vertical pipe 5 is also provided with a liquid-vessel 18 at the top and with a safety-valve 19, a water or liquid gage 20, and a stop-cock 21, all constructed in the well-known way. The farther end of the pipe *a* is provided with any suitable well-known thermometer 22 to show the degree at that point. At the lower end of the pipe 12 the end of the lower coil in the heating device is connected by a T 23, and between the T 23 and the elbow 11 is an air-cock 24 and a stop-cock 25 above it. When filling the apparatus, the cocks and the safety-valve are opened in any well-known way, and the cocks 16, 17, and 24 are also opened, the cock 24 being left open to allow the air to pass out while the liquid is passing in, which it is allowed to do until the liquid starts out from the cock 24, when the cock 25 is immediately opened to allow the liquids to come together from the pipes *d* and 12. The cock 24 is then at once closed. Cock 15 is then opened and left open until the liquid is high enough to run out through it. This indicates that everything is full. Then the cocks are all closed and the fire started. After twelve hours, more or less, the fire is allowed to cool, and when sufficiently cool the liquid material is drawn off through the cock 10 and is found to become equal to aged liquor in every respect, and at the same time purified and cleared without any loss of proof and with little or no shrinkage in bulk.

I claim as my invention—

In an apparatus for aging and purifying liquors, the combination of a substantially continuous vertically-arranged pipe a portion of which is formed into a coil, a stove surrounding the coiled portion of the pipe, a vertical filling-pipe communicating with said pipe at the lower end of the coil outside of the stove, a filling-vessel at the top of the ver-

tical pipe provided with suitable cocks, and
three cocks in the continuous pipe below the
coil, two of which are liquid and air outlets,
respectively, and the other one a stop-cock,
5 the stop-cock being located between the air-
outlet and the union between the vertical
pipe and lower end of the coil, and a ther-

mometer and a safety-valve connected with
the continuous pipe, substantially as set forth.

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Witnesses:

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