

A. LUQUET & P. HUERNE.

Improvement in Apparatus for Ageing Wines and Liquors.

No. 126,722.

Patented May 14, 1872.

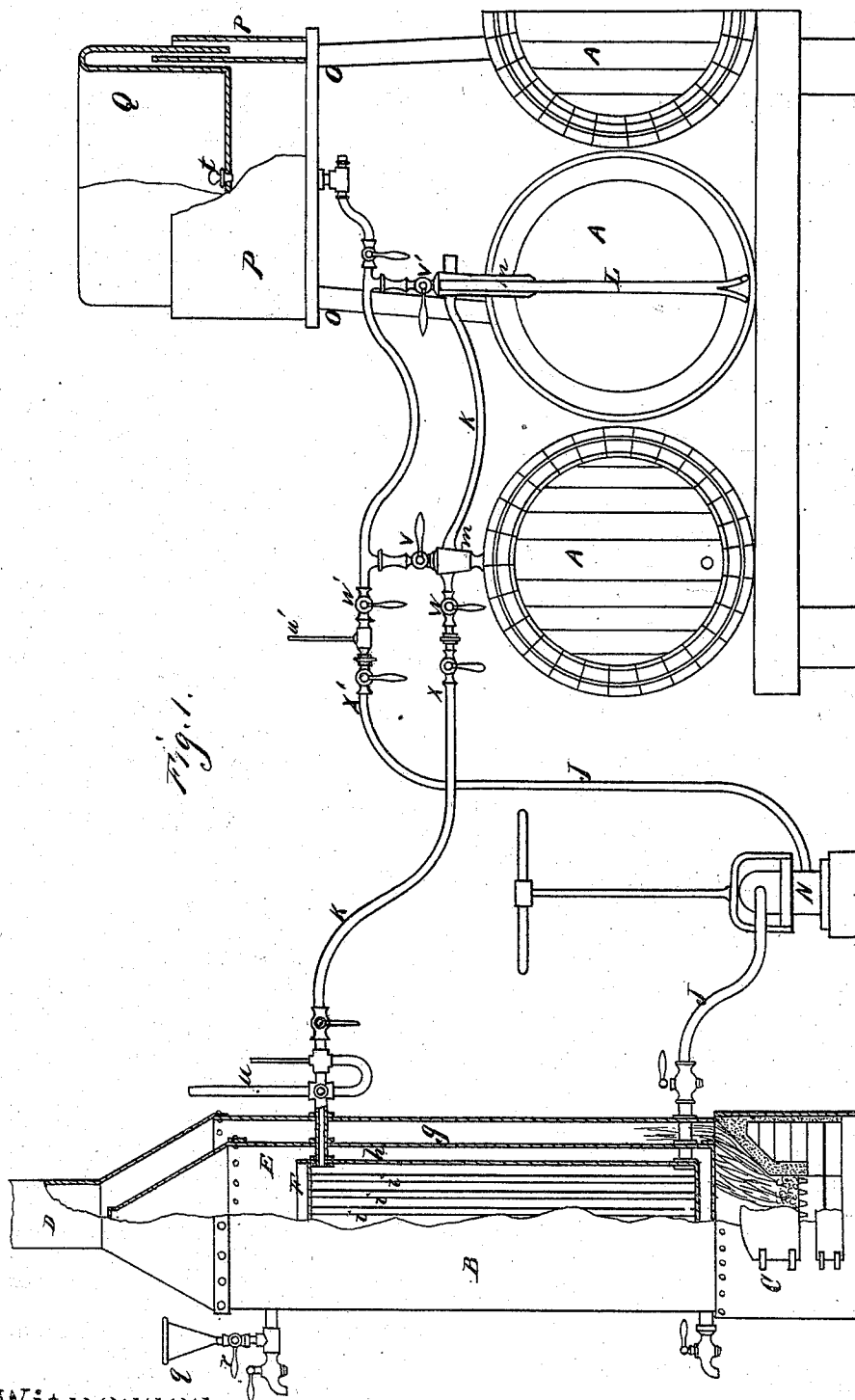


Fig. 1.

Witnesses

J. L. Boone
George Wuest Jr

Inventors

Prosper Huerne
Adolph Luquet
by Dewey & Co
attys

UNITED STATES PATENT OFFICE.

ADOLPHE LUQUET AND PROSPER HUERNE, OF SAN FRANCISCO, CAL.

IMPROVEMENT IN APPARATUS FOR AGEING WINES AND LIQUORS.

Specification forming part of Letters Patent No. 126,722, dated May 14, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that we, ADOLPHE LUQUET and PROSPER HUERNE, both of the city and county of San Francisco, State of California, have invented Improvements in Apparatus for Ageing Wines and other Liquors; and we do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention or improvements without further invention or experiment.

Our invention relates to an improved apparatus for treating wines and other alcoholic liquors according to the heating process of Pasteur in order to ripen it or give to it that peculiar quality known as "age."

In order to fully explain our invention reference is had to the accompanying drawing forming a part of this specification, in which—

A A represent the casks which contain the wine or other liquor to be treated.

Now, the principal object of our invention is to so contrive the apparatus that the liquid contained in the casks A can be subjected to a proper degree of heat to destroy the spores or organism of fermentation without exposing the liquor during the process to the atmosphere.

In order to do this we construct our apparatus in the following manner: B is a portable upright cylinder or stack, in the lower end of which is a fire-place or furnace, C, while its upper end is contracted and provided with a flue or draught-pipe, D. In the body of the cylinder B and above the fire-place we secure a cylinder or drum, E, inside of which is another cylinder or drum, F. Each inside cylinder is made smaller than the one outside of it so as to provide an annular space or jacket between them. The outer annular space or jacket *g* communicates with the fire-place below and draught-pipe above, and serves to convey away the products of combustion. The next annular space *h* is filled with water, so as to entirely surround the inner drum or cylinder F. A number of pipes or tubes, *i*, pass through the drum F and communicate at each end with the water-space *h*, thus producing a large heating surface inside of the inner drum. J and K are pipes, which lead from the casks A and pass into the inner drum or cylinder F, the

pipe J entering near the bottom, while the pipe K enters near the top. L is a hollow pipe or tube, which is inserted through the bung-hole of the cask A, and is long enough to extend to the bottom or opposite side of the cask. This tube also extends above the cask and connects with the pipe J. At the point where the tube L passes through the bung-hole of the barrel it is surrounded with a larger short tube, *m*, the upper end of which is closed, thus providing an inverted cup-shaped annular space which opens into the cask around the tube L. This outer tube is fitted tightly in the bung-hole, so as to prevent the air from passing into the cask. The pipe or tube K connects with this annular space outside of the cask for the purpose hereinafter mentioned. At some convenient point in the length of the tube J we employ a suction and force pump, N, with which the tube J connects both above and below the piston, so that the operation of the pump will produce a circulation of the liquid in the casks through pipes J K and heater F. Mounted upon a frame, O, so that its bottom will be on a level with the upper end of the heater F, is what we call a lifting expansion tank, which consists of a vessel, P, having double sides, so as to provide a surrounding annular space, which is filled with water. Q is a vessel or expansion gauge, which is made to fit inside of the tank P, and has an outside turned-down rim which fits in the annular space between the double sides, thus providing a water joint, which will permit the vessel Q to rise and fall without admitting air between the vessel and tank. The pipe J, after it connects with the upper end of the tube L, is carried along and connected with the expansion tank P through the center of its bottom, and a hole in the bottom of the vessel Q, which is stopped by a plug, serves to permit the apparatus to be charged with wine or other liquor before commencing the operation.

The operation of our apparatus is as follows: After arranging the apparatus as above described, we proceed to fill the water-space *h* through the funnel *g*, and then close the stop-cock *r* below the funnel, and open all of the remaining cocks in the pipes J and K. Wine or other liquor of the same quality as that in the cask is poured into the vessel Q until the heater F and pipes J and K are filled with

wine, the proper instant to cease filling being indicated by the appearance of the liquid, seen through the opening in the bottom of the vessel Q. The pump N is then operated until the air is exhausted from every part of the apparatus, and the plug *t* is then replaced. We then light the fires under the heater and allow the apparatus to stand until the thermometer U on the pipe K indicates the required temperature, which will be about fifty (50°) degrees centigrade, or one hundred and thirty-five (135°) degrees Fahrenheit. The pump N is then worked until the thermometer U' on the pipe J indicates the same temperature. By this means the wine is drawn from the bottom of the cask, through the pipes L and J, into the pump, and thence forced into the heater and back through the pipe K, discharging from the annular space between the pipe L and outer tube *m*, the process being continued until both thermometers indicate the required degree of heat to destroy the organism in the wine. The expansion of the wine during the heating process will lift the vessel Q in the expansion tank, but the surrounding water joint will prevent the entrance of air into the tank. When all of the wine in the first cask has been thus heated, the cock V is closed, and communication can be opened through the cock V' with the second barrel or cask, which will be treated in the same manner, and so on through the entire number of the set, after which the cocks W and W' are closed, so as to shut off the communication between the casks and heater. The pipes J and K can then be uncoupled at X X' and transferred to another set of casks, arranged as above described, for repeating the same process upon another set of casks. In order to allow the wine in the casks already treated to cool, the cocks V and V' can be opened so that the wine, as it cools, can gradually settle back into the cask from the expansion tank in proportion to the cooling of the contents. The tubes L L are then removed and the casks closed up in the usual manner.

By the above-described apparatus we are enabled to heat every particle of the wine to the same temperature without for one instant exposing it to the atmosphere, and at the same time keeping it in constant motion, thus preventing acidulation and greatly improving the wine.

By using an expansion tank P for every one thousand gallons of wine to be treated, and connecting them together, there is no limit to the quantity of work that can be performed in one operation.

The apparatus is portable, so that the wine can be treated without handling or disturbing the casks.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The stack or cylinder B with its inside cylinders E and F, arranged to provide a smoke-passage, *g*, water-space *h*, and heating-chamber F', in combination with the furnace C, substantially as and for the purpose above described.

2. The heater F with its tubes *i*, in combination with a water-bath and furnace C, substantially as and for the purpose above described.

3. The circulating pipes J and K for connecting the cask with the heater, in combination with the suction and force pump N, substantially as and for the purpose above described.

4. The tube L, connected at its upper end with the pipe J, and provided with the enlargement *m*, by which an inverted cup-shaped annular space is formed, with which the pipe K connects, substantially as and for the purpose above described.

5. The expansion tank, consisting of the vessel P provided with double sides, in combination with inside vessel or gauge Q provided with a turned-down outer rim, substantially as and for the purpose above described.

6. The vessels P and Q, connected by a water joint, in combination with the pipes J and K and heater F, substantially as and for the purpose above described.

7. The apparatus above described, together with the cocks, plugs, and thermometers specified, arranged to operate in the manner substantially as and for the purpose specified.

In witness whereof we hereunto set our hands and seals.

A. LUQUET. [L. S.]

PROSPER HUERNE. [L. S.]

Witnesses:

GEORGE WUEST, Jr.,

J. L. BOONE.