J. SEITZ.

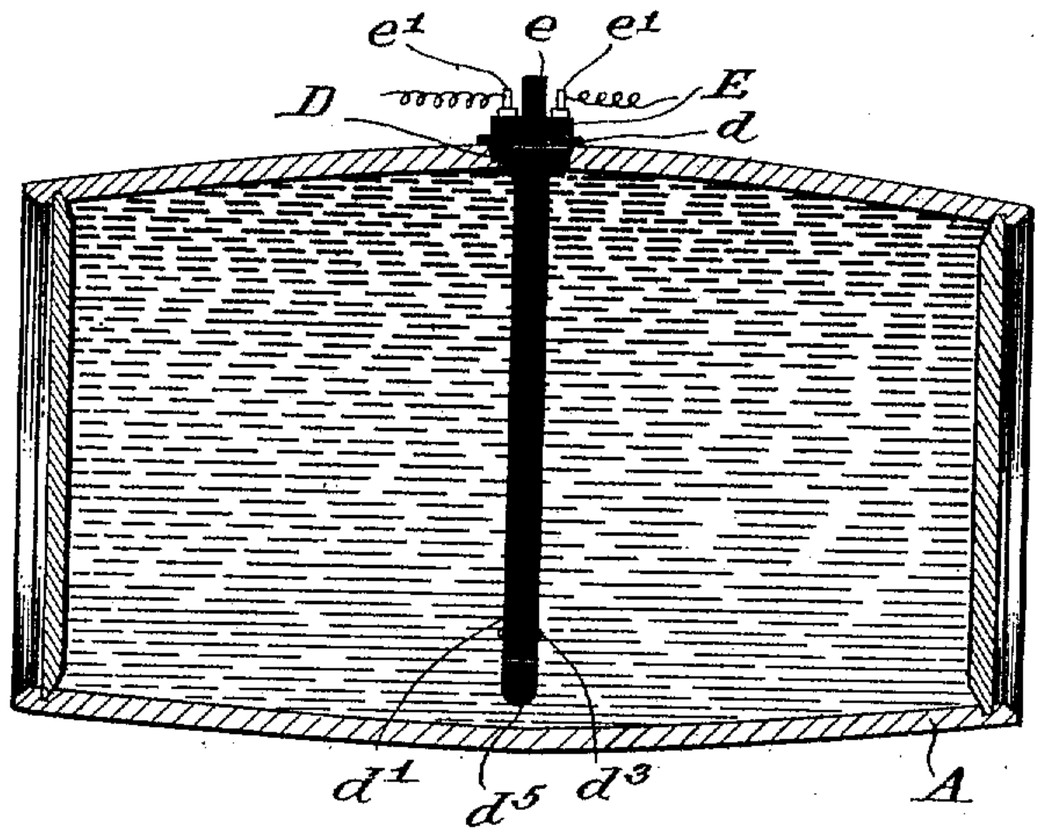
APPARATUS FOR AGING LIQUORS.

APPLICATION FILED JULY 13, 1908.

967,574.

Patented Aug. 16, 1910.

Fig. 1



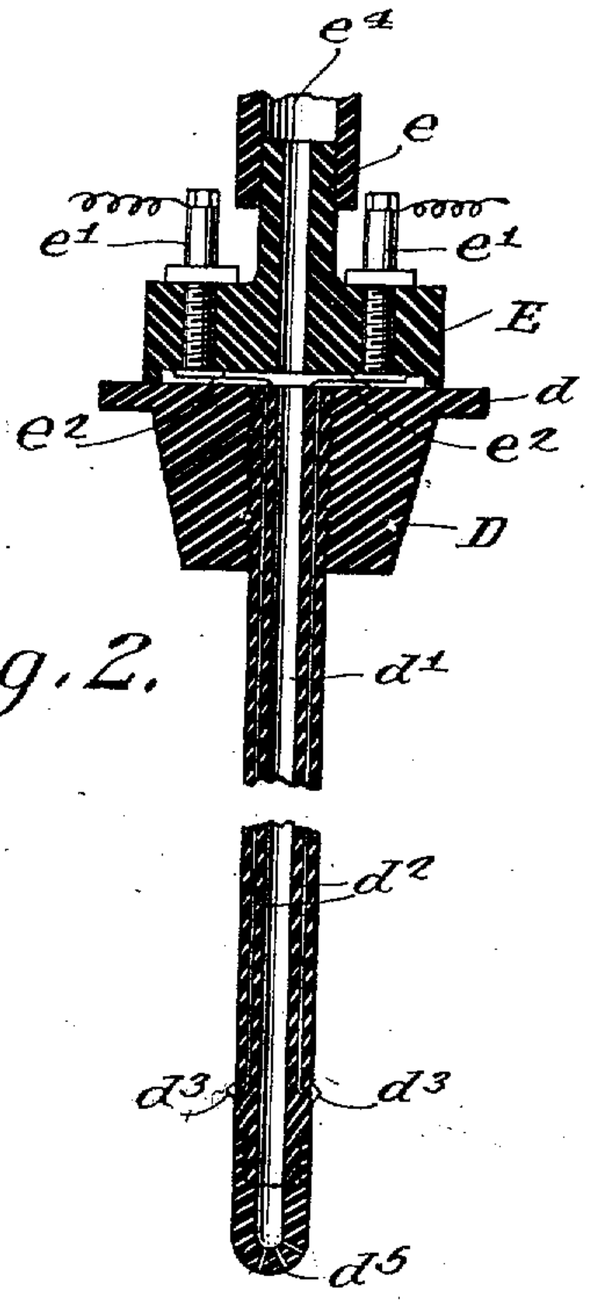


Fig. 2.

Fig. 3.

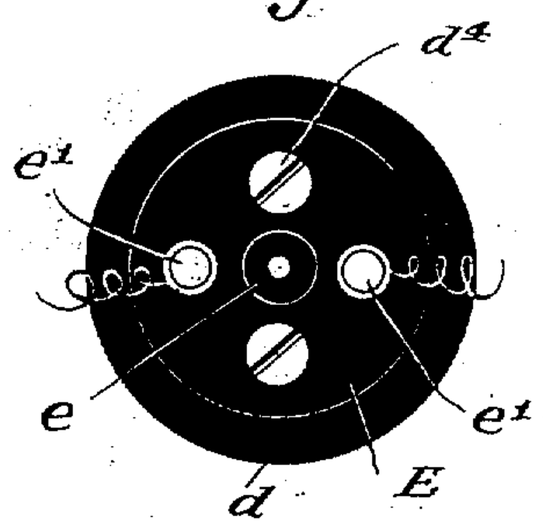
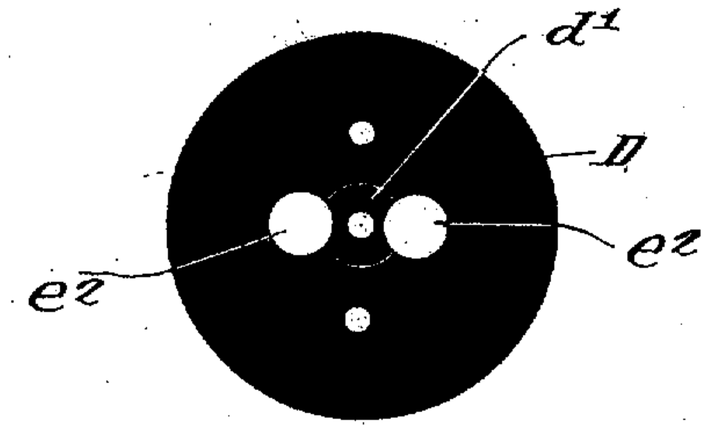


Fig. 4.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR AGING LIQUORS.

967,574. Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed July 13, 1908. Serial No. 443,377.

To all whom it may concern:

Be it known that I, JOHN SEITZ, a citizen of the United States, and a resident of the city of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Apparatus for Aging Liquors; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to apparatus for aging liquors of that class set forth in my prior application for patent for "Apparatus for aging liquor", filed September 21, 1907, Serial No. 393,961.

The object of the present invention is to subject a liquor to be treated or aged simultaneously to the action of certain gases and at the same time to subject the liquor to the action of an electrical current.

It is a further object of the invention to provide an exceedingly simple mechanism for the purpose specified constructed of such material as permits of ready sterilization and capable of being quickly disassembled for the purpose of cleaning or repair.

It is also an object of the invention to afford a device of the class described adapted for use with any suitable source of electrical energy and to utilize any preferred gas or gases including atmospheric air in the treatment.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a central, vertical, longitudinal section of a cask of liquor showing the apparatus embodying my invention secured in place therein and ready for operation. Fig. 2 is an enlarged vertical section of the apparatus. Fig. 3 is a top plan view thereof. Fig. 4 is a detail of one of the parts thereof in top plan view.

As shown in the drawings: A, indicates the cask or barrel to contain the liquor to be treated, and which, of course, may be any cask commercial or otherwise. The apparatus shown is inserted through the bung-hole of the barrel when the barrel is laid upon its side.

D, indicates a conical bung adapted to fit loosely in the bung hole of a barrel and is constructed of hard rubber or other suitable non-conducting material not capable of being affected by the liquor. Said bung is provided with an integral flange d, which supports the apparatus on the barrel. Threaded into a central aperture in said bung is a tubular stem d', of insulating material, conveniently of hard rubber, similar to the bung and having molded therein on opposite sides of the bore thereof conducting wires d^2, each of which is connected with the slightly enlarged metallic conical projection d^3, on the outer side of the stem near the lower end thereof. Secured on the bung by means of screws d^4, is a cap E, of insulating material provided with a central tubular stem e, extending upwardly in alinement with the downwardly directed stem d', and threaded into said cap piece are binding posts e', one on each side of the cap and which, at their inner ends, on the under side of the cap contact metallic contact plates e^2, which are soldered or otherwise integrally connected with the lead wires d^2. Said binding posts are connected with any suitable source of electrical current. As shown, the lower end of the tubular stem d', is partly closed by a nozzle d^5, which is provided with radiating apertures whereby the gas delivered through said tube into the barrel is sprayed outwardly into the liquor and of course, a hose pipe e^4, connected with any suitable source of pressure is connected with the stem e, to deliver the gas to be used thereto.

The operation is as follows: In operation, the current passes from one of the conductors to the other through the liquid, either using the liquid alone as the conductor between the ends of the conducting projections d^3, or, if preferred, using a fine wire conductor to connect these points, which of itself would afford considerable resistance to the current, thus permitting a considerable portion of the current to pass through the liquid and if a current sufficiently strong were used, tending to heat the wire conductor and affecting the liquor through the convective currents thus set up, both by the increased temperature of the wire and by the electrical action of the liquor itself. While this is taking place, atmospheric air, oxygen or ozone is forced into the cask and into or below the path of the electrical current thus greatly agitating and aerating the liquor and subjecting the same to an oxidizing action which, together with the electrical action before referred to, materially changes

the character of the liquor, producing the same effect that has usually been thought to necessitate years of time to accomplish, or in other words, aging.

In this construction, owing to its simplicity, the insertion or removal from the opening through the bung or opening is effected without any change or adjustment of parts.

All parts of the device are chemically inert to any of the gases or ingredients contained within the liquor to be treated which also can receive no injurious effect therefrom through the contamination of the liquor in the slightest degree and furthermore, being constructed to permit the same to be readily disassembled for cleansing or repair, and the material adapted to be easily sterilized by boiling, the utmost cleanliness is assured.

Of course, details of the construction may be varied and I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art.

I claim as my invention:

1. In a device of the class described, the combination with an electrically non-conducting bung adapted to fit loosely in the bung aperture of a retaining vessel, a peripheral projection on the bung adapted to station the same in place, said bung having an aperture extending therethrough, a non-conducting tube extending through the bung, electrical conductors in the tube, at their outer ends adapted for connection with a source of electrical current, at their inner end projecting into the liquor, and means for delivering a gas or gases to the bottom of the liquor to be treated.

2. In a device of the class described, the combination with an electrically non-conducting bung adapted to fit loosely in the bung aperture of a containing vessel, of a projection thereon adapted to station the same in place, said bung having an aperture extending therethrough, a non-conducting tube extending through the same, electrical conductors insulated in the tube and at their outer ends adapted for connection with a source of electrical current and at their inner ends projecting into the liquor and an air pipe communicating with said tube for delivering air to the bottom of the liquor to be treated.

3. In a device of the class described, a hard rubber bung, an integral flange thereon adapted to support the bung loosely in the bung aperture of a containing vessel, a tube extending through the bung and to near the bottom of the vessel, conductors insulated in the tube and at their inner ends extending into the container, and adapted at their outer ends for connection with a source of current, and an air pipe connected with said tube and adapted for connection with a source of air pressure to deliver a gas into the liquor below the exposed ends of the conductors.

4. In a device of the class described, a hard rubber bung, an integral flange thereon adapted to support the bung loosely in the bung aperture of a container for the liquor, a hard rubber pipe extending through the bung, conductors insulated thereon on each side of the bore thereof and extending into the container near the bottom and adapted at their outer ends for connection with a source of electrical current, and means connected with the bore in said pipe to deliver a jet of air into the liquor below the exposed conductors.

5. In a device of the class described, a hard rubber bung, a tube threaded therein and opening therethrough provided at its bottom with a spray nozzle, conductors connected with and insulated in said tube and extending outwardly therefrom on opposite sides thereof near the bottom and adapted at their upper ends for connection with a source of electrical supply.

6. In a device of the class described, a bung of non-conducting material, a tube threaded therein and opening therethrough, a spray nozzle secured on the inner end of the tube, insulated conductors in said tube on opposite sides of the passage, said conductors with their non-insulated ends extending outwardly therefrom near the bottom and adapted at their upper ends for connection with a source of electrical supply and means admitting air under pressure into said tube.

7. In a device of the class described, a bung of non-conducting material adapted to fit loosely in the bung aperture of a cask, a pipe extending therethrough also of insulating material, metallic conductors inserted in said pipe and opening through opposite sides thereof near the lower end, binding posts connected with the outer ends of said conductors and a pipe connected with the upper end of said pipe to admit air therethrough.

8. In a liquor aging apparatus, a single gas tube adapted to admit a gas therethrough into the liquor being treated and positive and negative conductors in said gas tube extending outwardly from the sides of the tube.

9. In a device of the class described, a non-conducting bung, a non-conducting member extending axially therefrom having a passage therethrough, a positive and a negative conductor in said member and conductors connected with the positive and negative conductors and projecting from the sides of said member.

10. A liquor treating and aging device, comprising a single tube or pipe, a spray nozzle in the end thereof and positive and negative conductors extending nearly the length of the tube and then through the sides thereof.

11. A liquor treating and aging device, comprising a bung, a cap secured thereto, contact plates between the cap and the bung, plugs secured to the cap adapted to engage the contact plates, a pipe extending from the bung, conductors secured thereto electrically connected with the contact plates, a tube secured to the cap having the bore in alinement with the bore in the pipe and a hose connected to the tube.

12. In a liquor aging apparatus a single tube of insulating material adapted to admit a fluid therethrough and conductors insulated by the tube and having non-insulated ends extending outwardly through opposite sides of the tube and into the liquor being treated.

13. In a device of the class specified a single member having a passage for delivering gas and positive and negative conductors in the gas tube non-insulated at the ends and extending oppositely into the liquor being treated and means for supporting the member in operation.

14. In a device of the class described a supporting member, a hollow member secured thereto, conductors secured to the hollow member exposed at their inner ends, contact members connected with the opposite ends of the conductors, a member for concealing the same, contact posts secured to said member and contacting said contact members and means secured to one of said members and adapted to admit a gas into the hollow member.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN SEITZ.

Witnesses:
C. W. HILLS,
K. E. HANNAH.