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H. F. TAYLOR

APPARATUS FOR TESTING ALCOHOL

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Fig. 1.

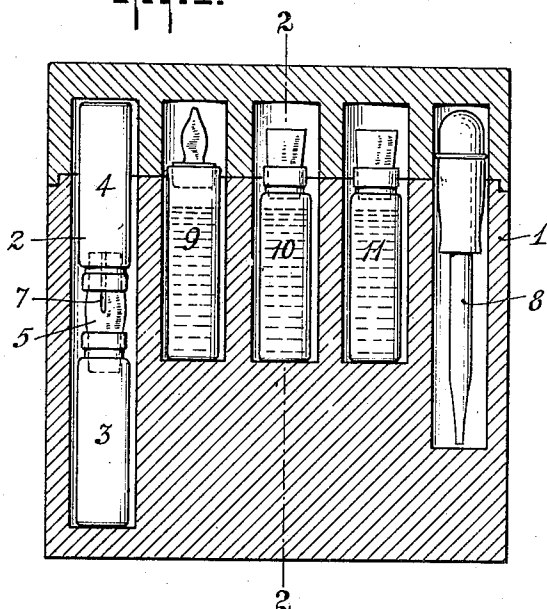


Fig. 2.

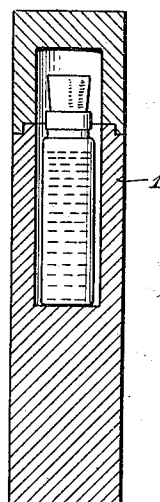


Fig. 3.

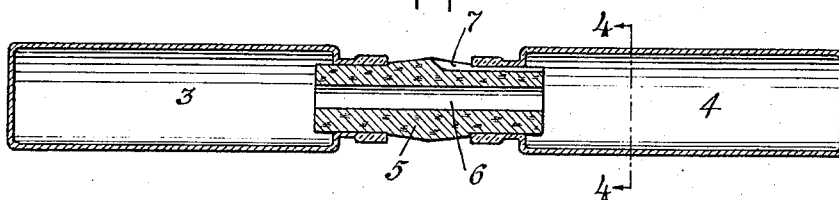
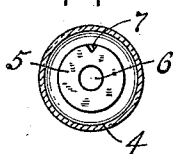


Fig. 4.



WITNESS

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APPARATUS FOR TESTING ALCOHOL.

Application filed September 15, 1927. Serial No. 219,661.

This invention relates to the process and apparatus for testing alcohol for the purpose of ascertaining whether the same has been denatured and has for its object the provision of a very simple process for making such test and apparatus for carrying out the same.

In the drawing Fig. 1 shows a cabinet in vertical section provided with pockets adapted to contain the separate elements for carrying out the process; Fig. 2 is a sectional view on line 2—2 of Fig. 1; Fig. 3 is a cross section of the still illustrated at the left of Fig. 1; Fig. 4 is a section on the line 4—4 of Fig. 3.

A cabinet 1, provided with suitable recesses and a cover, may be utilized to contain the apparatus for carrying out the steps of the process. The apparatus for carrying out the process consists of a still of novel construction and simple manipulation. The still 2 consists of two like chambers 3 and 4 preferably made of glass and for this purpose glass vials shaped to the configuration shown in the drawings may be readily used. The vials 3 and 4 are connected together with a nipple 5, preferably a double tapered cork, the opposite ends of which are introduced into the corresponding mouths of the chambers 3 and 4. A central channel 6 is provided in the nipple 5 and a vent 7 is provided in the outer surface of that portion of the cork which is connected to the vial 4 to permit the escape of air from the chamber 4. By reason of the removable connection between the chambers 3 and 4 either may be readily removed for the introduction therein of the liquids and chemicals required to carry out the process.

The steps required to test the liquid are as follows: Five drops of the liquid to be tested, measured by dropper 8, are introduced into the chamber 3 and the chamber 3 is then aligned with the chamber 4 by inserting the free end of the nipple 5 into the mouth of said chamber. The still is then preferably held in horizontal position and the chamber 3 is heated. The necessary degree of heat may be obtained by the use of a burning match, the flame of which is applied to the outside of said chamber. During the application of heat the still is supported by grasp-

ing the chamber 4 with a hand. The heat applied to the chamber 3 volatilizes the more readily volatile liquids contained therein which pass through the channel 6 into the chamber 4 in which they are condensed by contact with the cooler sides of said chamber. It is preferred to use glass vials to constitute chambers 3 and 4 of a length of about two inches and one-half inch in diameter so that a large surface will be exposed to the heating flame and also that the volatilized liquids will come in contact with a large surface so as to be readily condensed. The amount of the liquid in the heating chamber 3 is insignificant when compared with the volume of the chamber so that the liquids will volatilize in a few moments after a heating flame is applied to the walls of the chambers. As soon as the chamber 4 is warmed by the volatilized liquid entering therein, heating of the chamber 3 is discontinued. The air in the chamber 4 is permitted to escape in the outer atmosphere through the vent 7. The chamber 4 is then withdrawn from its connection with the nipple 5 and five drops of water are added to the condensation product in the chamber 4. Thereafter three drops of a solution containing 3% potassium permanganate, 15% of 85% phosphoric acid, and distilled water, indicated as contained in the vial 9, are introduced into the chamber 4 and the contents of the chamber 4 is allowed to stand for about three minutes. Four drops of a solution containing 18% sulphuric acid, 25% ferrous sulphate, and distilled water, and three drops of a solution containing 1/10 of 1% of basic fuchsin, 1% sodium sulphite, and distilled water are introduced in the order named into the chamber 4 and the contents is allowed to stand for about ten minutes. The ferrous sulphate solution is indicated in the drawing as contained in vial 10 and the fuchsin solution is indicated in the drawing as contained in vial 11. If, thereafter, the liquids contained in the chamber 4 change to a bluish color it indicates that denaturant is present in the liquid being tested but if the color does not change but remains whitish it indicates the absence of the denaturant.

I claim:

1. A still adapted for use in testing for the

presence of denaturant in alcohol, or like liquids, comprising spaced chambers united by a nipple, a channel in the nipple establishing communication between the chambers and a vent from one of said chambers to the outer atmosphere.

2. A still adapted for use in testing for the presence of denaturant in alcohol, or like liquids, comprising spaced chambers, a nipple, the chambers being removably secured to the opposite ends of said nipple, one of said chambers being adapted to initially receive liquid to be tested, said last mentioned chamber having leak proof connection with said nipple, the other chamber being provided with a vent to permit the escape of air therefrom and a channel in the nipple

establishing communication between said chambers.

3. A still adapted for use in testing for the presence of denaturant in alcohol, or like liquids, comprising a pair of glass chambers, mouths in the heads of said chambers, a nipple, the opposite ends thereof being adapted for projection into the mouths of said chambers, and thereby removably securing the chambers in alignment, a channel in said nipple establishing communication between said chambers and a vent to one of said chambers.

In testimony whereof I have hereunto set my hand.

HARDEN F. TAYLOR.