No. 844,855. PATENTED FEB. 19, 1907.

R. W. DODGE.

FORMALDEHYDE GENERATOR.

APPLICATION FILED JUNE 16, 1906.

Fig. 1.

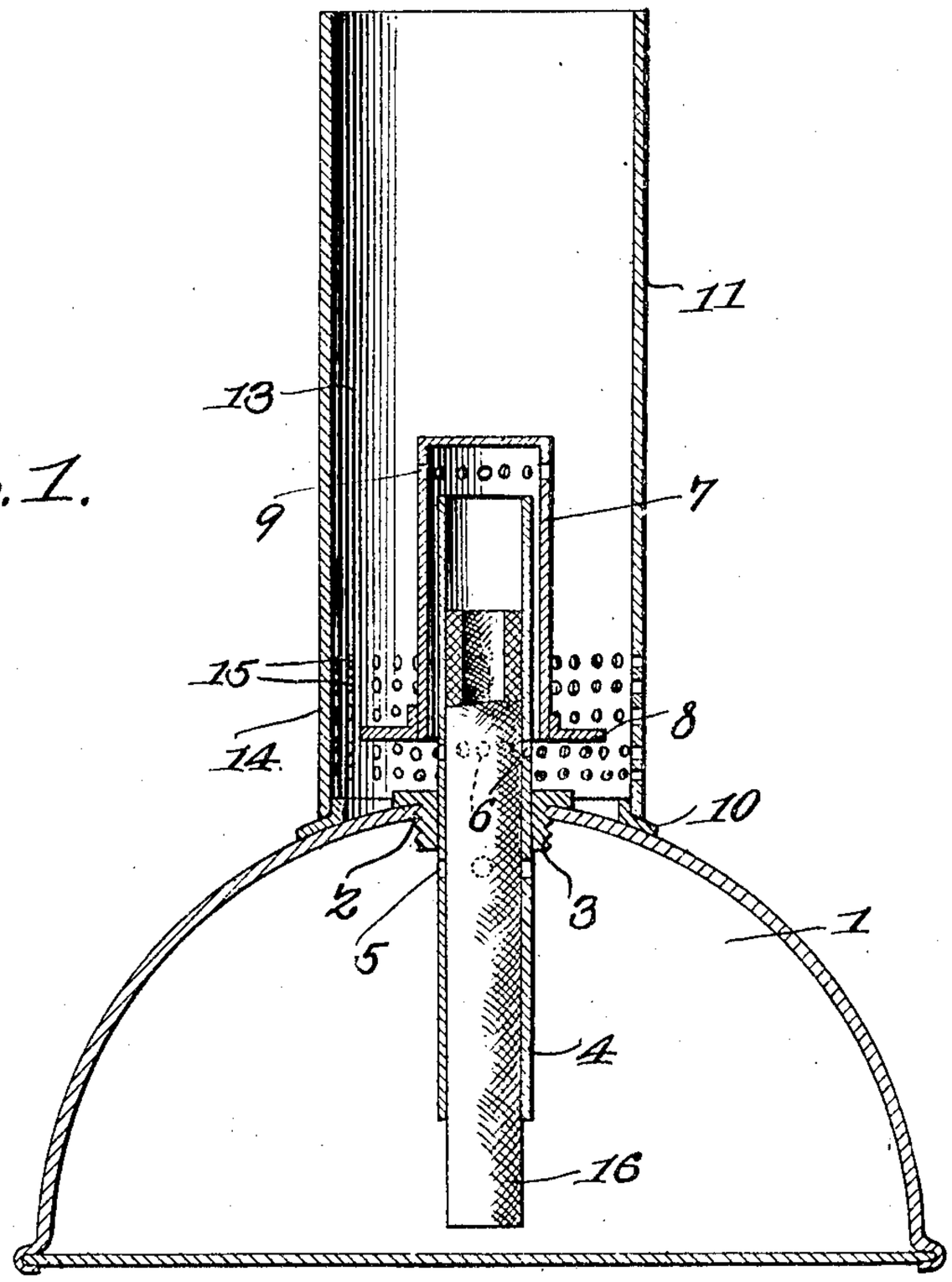
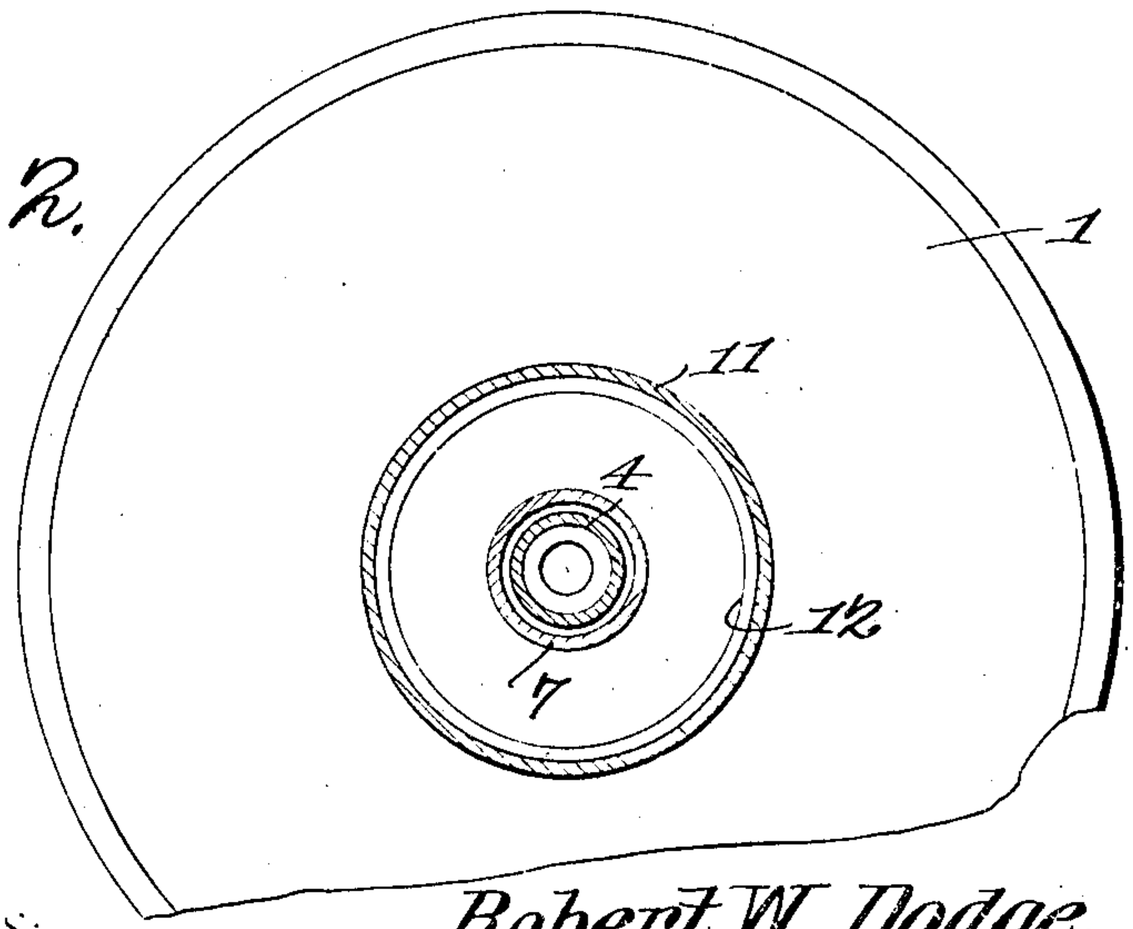


Fig. 2.



WITNESSES:

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ROBERT W. DODGE, OF KANSAS CITY, MISSOURI.

FORMALDEHYDE-GENERATOR.

No. 844,855. Specification of Letters Patent. Patented Feb. 19, 1907.

Application filed June 16, 1906. Serial No. 322,086.

To all whom it may concern:

Be it known that I, ROBERT W. DODGE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Formaldehyde-Generator, of which the following is a specification.

This invention relates to generators for producing formaldehyde; and its object is to provide a simple device of this character which can be operated without the exercise of any particular skill and by a person without experience with devices of this character. The device is especially adapted for generating formaldehyde wherever it is desired to use it for disinfecting purposes.

The invention consists of a receptacle having a tube extending thereinto and formed with inlet-openings and with a set of outlet-openings. A tubular wick is arranged within said tube, and a cap having outlets in its upper portion is mounted on the apertured tube and serves to normally close the same. A copper chimney is mounted on the receptacle and has openings for supplying air to the lower portion of the exposed part of the tube, and a partition is arranged within the chimney for closing communication between the lower and upper portions.

The invention also consists of certain other novel features of construction and combinations of parts, which will be hereinafter more fully described, and pointed out in the claim.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings, Figure 1 is a vertical section through the generator, and Fig. 2 is a horizontal section through the chimney and the cap and tube surrounded thereby.

Referring to the figures by characters of reference, 1 is a receptacle of any suitable contour and proportions and having an opening 2 in the top thereof, into which is screwed a collar 3, which is arranged upon a tube 4, extending downward into the receptacle to a point near the bottom thereof and open at its ends. This tube has a desired number of inlet-openings 5 therein close to the top of but within the receptacle 1, and outlet-openings 6 are formed within the tube 4 just above the collar 3. A cap 7 in the form of a sleeve is slidably mounted on the outer portion of the tube and is closed at its upper end, while its lower end is surrounded by an annular flange 8. Outlet-openings 9 are formed within the cap at a point removed from its closed end, and when the said cap is in its lowermost position on the tube its lower end closes the openings 6, while the openings 9 in its upper end are closed by the tube 4. An upstanding circular flange 10 is arranged upon the receptacle and concentric with the opening 2. This flange is adapted to project into and hold a chimney 11, formed of copper. The flange 8 serves to divide the chimney into an upper compartment 13 and a lower compartment 14. That portion of the chimney constituting the wall of the lower compartment is formed with a large number of perforations 15, which constitute air-inlets. A wick 16 tubular in form is located within the tube 4.

In using this device a quantity of wood-alcohol is placed within the receptacle 1, and after the cap 7 has been slid upward the gas or vapor given off by the alcohol is ignited by applying a flame to the openings 6. Combustion will be supported by air entering the perforations 15, and when the copper is heated a portion of the oxygen admitted through the openings 15 will combine therewith to form oxid of copper. The heat generated will also vaporize the alcohol contained within the wick, and by reason of the expansion produced by the creation of the vapor said vapor will escape from the upper end of the tube 4 and through the openings 9 with considerable force, and the greater portion of it will be projected against the chimney 11. Should any of the vapor fail to come in contact with the copper chimney, it will commingle with the copper oxid contained within the chimney, and it therefore becomes impossible for any of the vapor to escape from the chimney without being converted into formaldehyde.

It will be seen that the apparatus is very simple and inexpensive in construction, and a large quantity of formaldehyde can be quickly produced at slight cost.

The preferred form of the invention has been set forth in the foregoing description; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of the claim.

What is claimed is—

A formaldehyde-generator comprising a receptacle, a tube extending thereinto and upward therefrom, said tube being open at

its ends and having inlet-apertures within and adjacent the top of the receptacle and outlet-openings outside of and adjacent the receptacle, a tubular wick disposed within said tube and closing the apertures therein, a cap slidably mounted upon the outer end of the tube and having a plurality of openings adapted to be closed by the tube when the cap is lowered, the outlet-openings within the tube being adapted to be closed by said movement of the cap, an annular flange surrounding the lower end of the cap, a circular flange upstanding from the receptacle, and a copper chimney centered by said circular flange about the tube and cap and spaced from the annular flange, said chimney having a plurality of air-inlet openings adjacent the outer apertures within the tube.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT W. DODGE.

Witnesses:
C. V. WOOLSEY,
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