(No Model.)

B. T. BABBITT.

EXTRACTING GLYCERINE FROM FATTY MATTERS.

No. 316,104. Patented Apr. 21, 1885.

Fig. 1

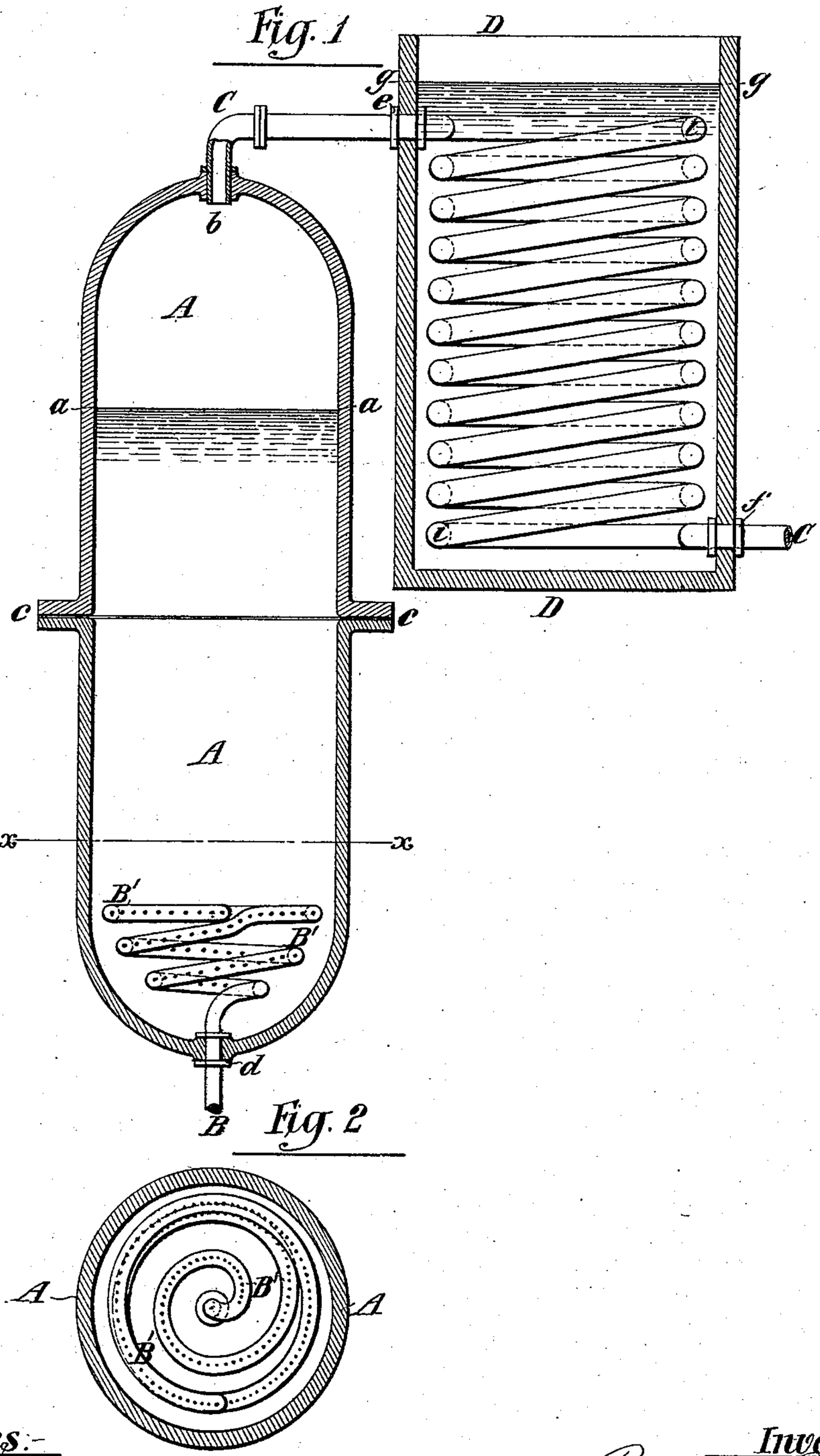

Fig. 2

Witnesses:-
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EXTRACTING GLYCERINE FROM FATTY MATTERS.

SPECIFICATION forming part of Letters Patent No. 316,104, dated April 21, 1885.

Application filed July 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN T. BABBITT, a citizen of the United States, and a resident of the city and county of New York, in the State of New York, have invented a new and useful Improvement in the Art of Extracting Glycerine from Fatty Matters, of which the following is a specification, reference being had to the accompanying drawings.

The invention consists in the extraction of glycerine from fatty matter by passing through said matter steam at a pressure and temperature sufficient to decompose it and to take up in suspension the separated glycerine, afterward condensing the steam and glycerine together, and finally evaporating the water from the glycerine, all as hereinafter more particularly described.

Figure 1 is a vertical sectional view of an apparatus for extracting glycerine from fatty matter according to my invention. Fig. 2 is a transverse sectional view of the same on the line *x x* of Fig. 1.

Similar letters of reference denote corresponding parts in both figures.

A denotes a metal vessel, which may be of any convenient size and form. In the example given it is illustrated as being a cylinder with hemispherical ends. It should be made of strength sufficient to resist great internal pressure.

B denotes a steam pipe or tube, which enters the bottom of said vessel at *d*, and is continued within said vessel in the form of a perforated coil, B′.

C designates another pipe or tube, which is connected with the top of said vessel at *b*, and enters the upper part of the tank D at *e*, wherein it is continued in the form of a coil, *i*, through said tank, passing out at the lower part thereof at *f*, whence the said pipe may lead to an open receptacle. This tank, which may be constructed of any convenient and suitable material, and may be of any convenient size and form, is open at the top, but otherwise made water-tight, and so arranged and connected that a stream of cold water will flow through it continuously. The vessel A should have proper provision afforded for the introduction thereinto of the fatty matters—as, for instance, by means of an opening fitted with a removable tight-fitting cover—and also similar or proper provision for drawing off the fatty acid from which the glycerine has been extracted.

To use this apparatus, fatty matter is introduced into the vessel A through the opening provided for the purpose until the vessel is about two-thirds full—for example, until the melted fat rises to the height designated by *a* of Fig. 1. The opening is then closed and made steam-tight. Steam at a pressure of about one hundred and fifty pounds to the square inch or upward is then let into said vessel A through the pipe B. The steam, in issuing from the perforations in the coil, will be divided into many small jets, which, entering directly into the mass of fatty matter, will thoroughly permeate and pass upward through it to the space in the top of the vessel, and when it has attained pressure enough will begin to pass off through the pipe C. As soon as the heat and pressure in the vessel have become sufficient, the fatty matter will begin to be decomposed. The glycerine will be separated from the fatty acids. The free glycerine will be taken up by the steam, and, being held by it in suspension, will be carried through the pipe C, to and through the condensing-worm *i* in the tank D, where the steam and glycerine, being condensed by the action of the stream of cold water flowing through said tank, will run out in the form of a solution of glycerine in water from the lower end of said pipe C into the receptacle provided, as aforesaid. This process may be continued until all the glycerine in the fatty matter has been extracted. The solution of glycerine in water is lastly subjected to evaporation until the glycerine and water are separated. This may be accomplished in any ordinary evaporating apparatus, such as evaporating-pans and the like.

What I claim as my invention, and desire to secure by Letters Patent, is—

The improvement in the art of extracting glycerine from fatty matters, consisting in passing through said matters steam at a pressure and temperature sufficient to decompose it, and to take up in suspension the separated glycerine, afterward condensing the steam and glycerine together, and finally evaporating the water from the glycerine, substantially as herein described.

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Witnesses:
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