H. ANGEBRANDT, JR.

GLUE CONVERTER.

APPLICATION FILED OCT. 9, 1912.

1,085,782. Patented Feb. 3, 1914.

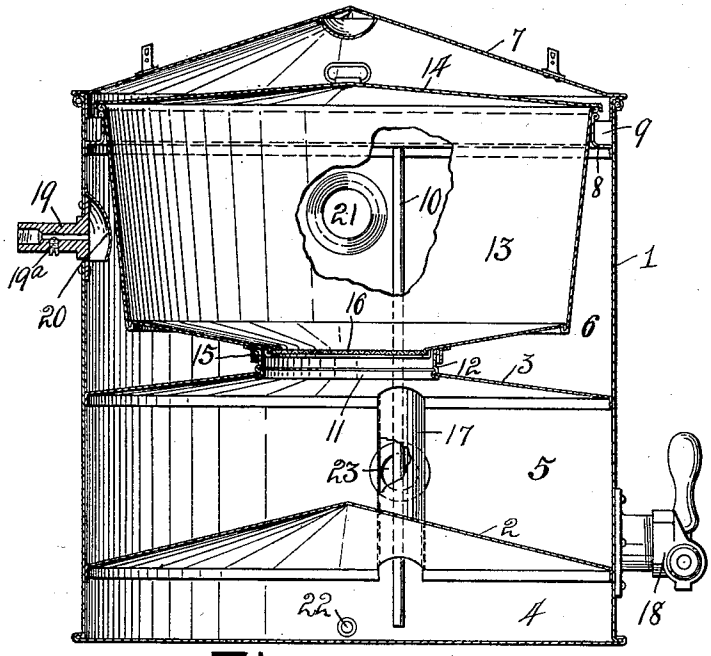


Fig. 1.

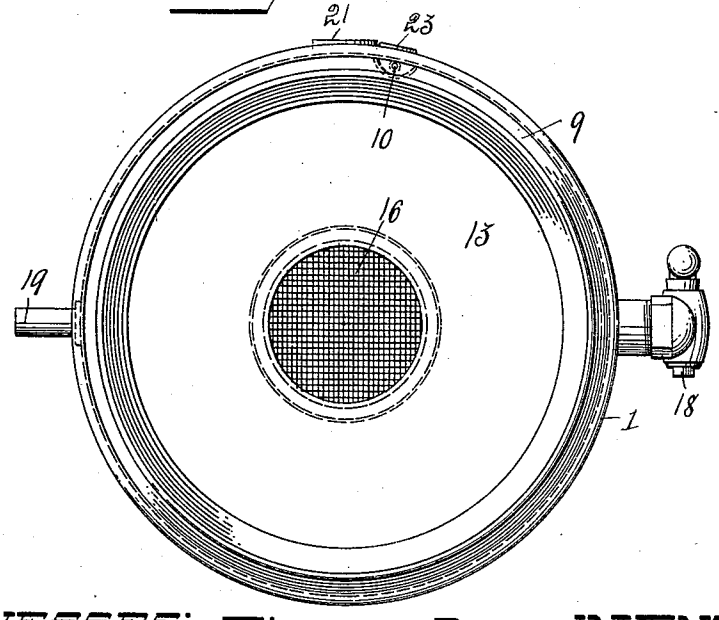


Fig. 2.

WITNESSES:

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GLUE-CONVERTER.

1,085,782. Specification of Letters Patent. Patented Feb. 3, 1914.

Application filed October 9, 1912. Serial No. 724,710.

To all whom it may concern:

Be it known that I, HUBERT ANGEBRANDT, Jr., a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Glue-Converter; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to apparatus for use in connection with the converting of glue from jelly to liquid form, and has particular reference to that type of apparatus in which steam is utilized as the heating medium.

In the use of apparatus of this character it is found necessary to prevent both the steam and the water of condensation therefrom from entering or having direct contact with the glue, owing to the deleterious effect the former has on the latter when commingled therewith; and it is the object of the present invention to provide a simple and improved apparatus of the character described, which will effectually prevent such commingling of the steam and the water of condensation with the glue whereby to enhance the practicability and commercial value thereof.

A further object of the invention is to prevent the buckling and cracking of the partition between the water and liquid glue chambers, which is found to occur by reason of the contraction and expansion of the metal under changing temperatures if flat or substantially flat partitions are employed, by the provision of conical or laterally bulged partitions, thus materially prolonging the life of such apparatus.

Further objects and advantages of the invention will be apparent from the following description.

The invention is fully described in the following specification, and while in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a central vertical section of an apparatus embodying the invention, with parts broken away, and Fig. 2 is a top plan view thereof with the covers removed.

Referring to the drawings, 1 designates a tank or vessel, which is preferably of circular form and provided with the two interior partitions 2 and 3, dividing the tank into the superimposed water, liquid glue and steam chambers or compartments 4, 5 and 6, respectively. The top of the tank is open, and, when the apparatus is in use is closed by a cover 7 which is preferably of conical form to permit the water of condensation gathering on the under side thereof to run from the center outward, and is provided adjacent to its edge with a depending flange for fitting closely into the top opening of the tank.

The chamber 6, which is the upper one of the set, is provided near its upper edge with an annular inwardly and upwardly extending flange 8, forming a drainage trough 9 for the water of condensation which drips from the cover 7, and has a conductor pipe or tube 10 leading downward therefrom and into the chamber 4. The bottom of the chamber 6, which is formed by the partition 3, is provided with a central opening 11 having an annular flange 12 projecting upward therefrom.

A container or pan 13 for jelly or soaked glue, is removably mounted in the steam chamber 6 in spaced relation to the walls thereof to permit a free circulation of steam therearound, fitting at its upper portion within the flange 8 with its upper edge preferably outwardly flanged or rolled to seat on the upturned portion of said flange, and having its bottom of conical or outwardly dished form and seating on the flange 12 of the partition 3. The top of this container is closed by a removable cover 14 of upwardly dished or conical form to enable the water of condensation, which drips thereon from the cover 7, to flow into the trough 9. The bottom of the container 13 is provided on its under side around the flange 12 in adjacent position thereto with an annular depending flange 15, which is found to be necessary to prevent the water of condensation, which gathers on and runs down the under side of the container bottom, from passing over the flange 12, as by capillary action, and entering the glue in the chamber 5, and also serves, in conjunction with the flange 12, to prevent the steam

within the chamber 6 from passing into the chamber 5. The portion of the container bottom within the flange 18 is of perforate or screen form, as shown at 16, to permit the glue, as it is melted within the container, to flow into the chamber 5. The partition 3 tapers downward from the flange 12 to its outer edge, and has a drainage opening at its outer edge which communicates through a conductor pipe or passage 17 with the water chamber 4.

To prevent the partition 2 from buckling and cracking due to the contraction and expansion of the metal under changing temperatures, as is the case with the flat or substantially flat partitions between the water and liquid glue chambers, the partition is made conical with its point or protuberant side preferably projected upward to facilitate a flowing of the glue in the glue chamber toward the drawing off faucet 18. It is found in practice that this form of bottom entirely eliminates the troubles which have been incident to the glue chamber bottoms heretofore employed.

Steam is admitted to the chamber 6 through an inlet pipe 19, the inner end of said pipe being covered by a deflector or flange 20, which prevents the steam from being discharged directly against the side of the container 13, and tends to cause the steam to act evenly upon all parts of the container which are exposed to said chamber. An outlet 21 for the steam, which is fed to the chamber 6, is provided in one side of its outer wall and enables live steam to be continuously fed to such chamber and to circulate around the container. It is found in practice that the provision of such outlet passage for the steam is quite essential to the satisfactory operation of a glue converter of this class and that very much better and quicker results are obtained by the use of the same.

The steam inlet pipe 19 is provided in one side thereof with a screw valve 19^a, which may be adjusted to change the size of the passage through such pipe as it is desired to regulate the quantity of steam admitted to the steam chamber 6. It is found in practice that if too much steam is admitted to the chamber 6 it will tend to raise or unseat the container 13 from the flange 12 and permit both steam and water to enter the glue chamber.

The water chamber 4 is provided with a drainage outlet 22 which may be piped to any suitable point of water discharge and has an over-flow outlet 23 provided in a side of the conductor passage 17 below the partition 3 for preventing water from rising from the chamber 4 a sufficient height within the conductor passage 17 to overflow the bottom of the steam chamber.

It is found in practice that an apparatus of this character constructed along the lines above described is highly efficient in its operation, and overcomes numerous objections and difficulties which are incident to the use of glue converters of this class heretofore employed, as the steam and water of condensation are effectually prevented from entering either the container 13 or the liquid glue chamber 5, thus enabling a superior quality of glue to be produced.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is,—

1. In a glue converter, a vessel, and partitions dividing said vessel into steam, liquid glue, and water chambers, with the partition between the liquid glue and water chambers vertically protuberant relative to the side edges of the partition.

2. In a glue converter, a vessel, partitions dividing said vessel into steam, liquid glue, and water compartments with the partition forming the bottom of the liquid glue compartment of conical form.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

HUBERT ANGEBRANDT, JR.

Witnesses:

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E. E. THOMAS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."