

No. 890,983.

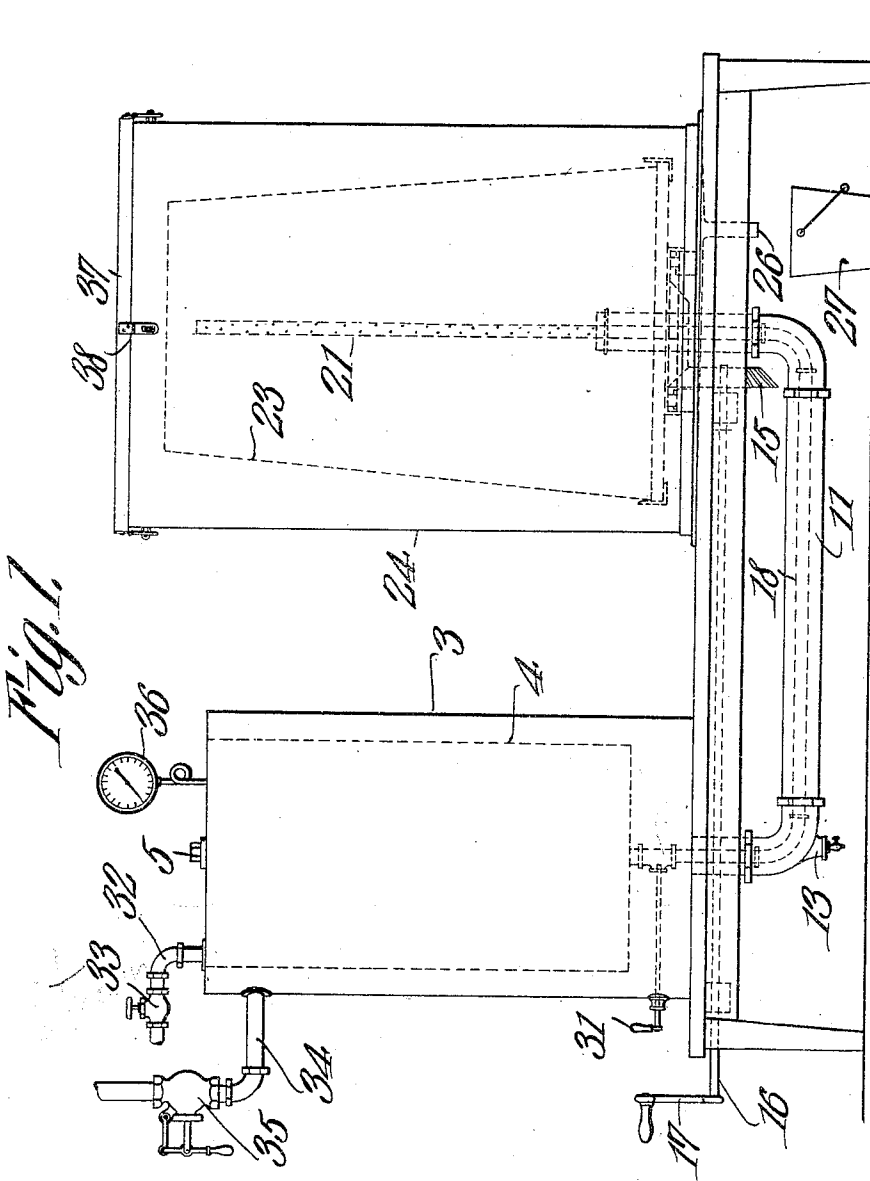
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MACHINE FOR PARAFFINING RECEPTACLES.

APPLICATION FILED JAN. 25, 1908.

2 SHEETS—SHEET 1.



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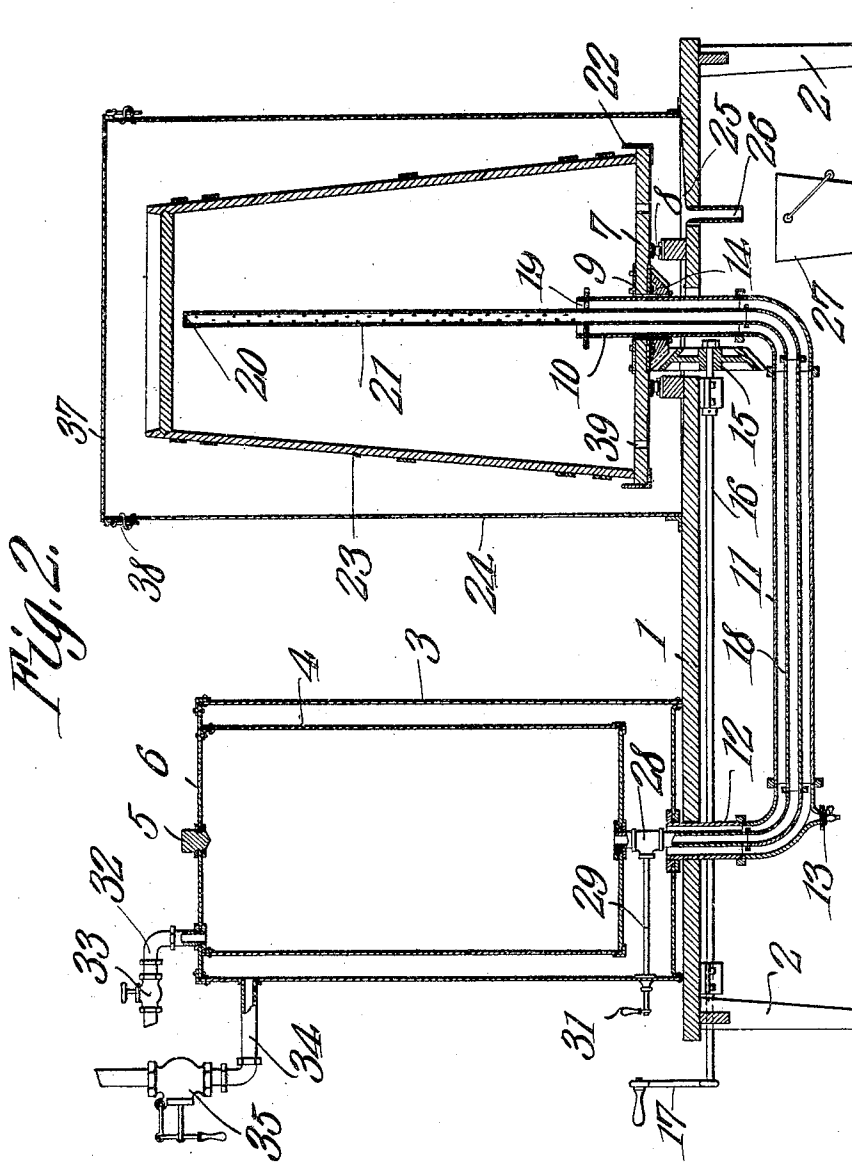
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UNITED STATES PATENT OFFICE.

MARTIN M. HJERMSTAD, OF KENYON, MINNESOTA.

MACHINE FOR PARAFFINING RECEPTACLES.

No. 890,983.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed January 25, 1908. Serial No. 412,659.

To all whom it may concern:

Be it known that I, MARTIN M. HJERMSTAD, a citizen of the United States, residing at Kenyon, in the county of Goodhue and State of Minnesota, have invented a new and useful Machine for Paraffining Receptacles, of which the following is a specification.

This invention has reference to improvements in machines for paraffining tubs and other such structures.

The object of the present invention is to provide a means whereby the interior of the tub or box or cask or other such structure to be treated is first subjected to the action of heat and then hot paraffin is sprayed upon the heated surface and is absorbed thereby because of the opening up of the pores of the surface to be treated by the preheating thereof.

The invention comprises a means for heating and maintaining paraffin in a melted condition at or above the boiling point of the paraffin or a point closely approaching such temperature by means of a steam jacket, and the paraffin container is also provided with means for the introduction thereof of steam under pressure. There is also provided a table capable of being revolved for the reception of the article to be treated, and in axial relation to this table there is provided a steam pipe communicating with the steam jacket of the paraffin tank so that the interior of the tub or other structure resting on the table with the steam pipe introduced thereinto may be subjected to the action of the steam, preferably dry steam, so that the surface to be treated is first heated to a high temperature and the pores are opened. Then by means of a suitable pipe or conduit traversing the steam pipe and entering the tub or other vessel through the open end of the steam pipe and extending above the same and there provided with a number of fine spraying holes, the hot paraffin may be forced by the pressure of the steam introduced into the paraffin vat into fine streams against the heated and thereby absorbent surface of the tub or other vessel to be treated. By this means the treated surface is thoroughly impregnated with paraffin to a sufficient depth, and provision is made for the recovery of such paraffin as may fall to the support of the structure being treated. Furthermore, by the final treatment of the interior of the vessel to another charge of hot steam, any surface coating of paraffin may be melted off

and will drop to the surface of the support of the tub or other vessel and finally flow into a suitable receptacle provided for its recovery.

The invention will be best understood by reference to the following detail description taken in connection with the accompanying drawings forming part of this specification, in which drawings—

Figure 1 is a side elevation of a structure embodying the invention with hidden parts indicated, and Fig. 2 is a longitudinal sectional view, with parts in elevation, of the structure of Fig. 1.

Referring to the drawings, there is shown a table 1, which may be indicative of any desired support, or platform for the reception of the various parts of the structure. This table is elevated upon legs 2 for convenience of manipulation of the parts.

Resting upon the table upon one end thereof, is a tank 3 interior to which, and spaced from the inner walls thereof, is another tank or vat 4, the latter being provided for the reception of paraffin which may be introduced through an opening at the top normally closed by a plug 5. The tanks 3 and 4 may be entirely separate, or as shown in the drawings, the top 6 may be common to both tanks. The lower end of the paraffin tank or vat 4 is elevated above the lower end of the tank 3, which latter constitutes a steam jacket.

Near the other end of the table there is mounted a rotary platform 7 which may be supported upon rollers 8, and is elevated a short distance above the top of the table 1. This table is centrally perforated, as shown at 9, for the passage of a steam pipe 10 which may also serve as a pivot about which the table 7 may be revolved. This steam pipe extends to a point beneath the table 1, and thence by a horizontal branch 11 is connected to an upright branch 12 leading into the bottom of the steam jacket 3. For the purpose of draining this steam pipe whenever necessary, a pet cock 13 is provided at a suitably located low point.

On the bottom of the platform 7 is secured a bevel gear 14 meshing with another bevel gear 15 mounted upon a shaft 16 journaled on the under side of the table 1 and extending to one end of said table, where it is provided with a manipulation crank 17, so that upon turning the shaft by means of the crank rotative movement may be imparted to the table 7.

Leading from the bottom of the vat 4 is another pipe 18 interior to the steam pipe 11 and ultimately extending upward through the upright stem 10 and above the upper end of the same, being centered at the exit end of the pipe 10 by means of suitable set screws 19. The upper end of the pipe 18, that is the portion projecting beyond the upper end of the pipe 10, is closed, as shown at 20, and provided with small perforations 21 which may be directed upwardly if so desired.

The platform 7 is provided with a peripheral flange 22 so that a tub 23 or other similar structure may be placed bottom upward on said table without danger of being moved beyond the periphery of the table because of the flange 22. There is also provided a casing 24 of sufficient size to completely inclose the tub or other structure 23 and the platform 7, and beneath the platform 7 within the confines of the casing 24 the table 1 may have its upper surface slightly dished, as shown at 25, and at its lowest point communicate with a pipe 26 leading downward and having its lower end open so as to discharge into a receptacle 27.

The pipe 18 immediately after leaving the bottom of the vat 4, contains a cut-off valve 28 provided with an extension handle 29 leading out from the steam jacket through a stuffing box 30 and terminating in a manipulating handle 31.

Steam is introduced into the jacket 4 through a suitable steam pipe 32 in which is included a valve 23. Steam is also introduced into the jacket 3 by a suitable steam pipe 34 in which is included a hand valve 35 of any suitable construction. The pressure within the steam jacket 4 may be ascertained by a suitable gage 36 communicating with the interior of said jacket.

Let it be assumed that a butter or lard tub is to be paraffined, it being understood that the following description with relation to the tub is equally applicable to a box or a cask or other receptacle where it is desirable that the interior surface should be treated with paraffin in a similar manner and for a similar purpose. The tub 23 is placed upon the platform 7 with its mouth downward and the bottom upward, and the casing 24 is then placed over the top. The casing 24 may be a comparatively fixed structure upon the table 1, and the top 37 of this casing may be made removable and be temporarily secured in place by suitable latches 38, or any other suitable means may be provided. Melted paraffin having already been introduced into the tank 4 through the opening to be closed by the plug 5 and the said plug having been reinserted, this paraffin may be maintained in a hot condition preferably at about the boiling point of paraffin by the steam introduced through the pipe 32 and the pressure within the vat may

be considerable. The steam is now introduced into the jacket 3 and from the same through the pipe 11 into the interior of the tub 23 by opening the valve 35, and the interior of the tub 23 will be heated to a comparatively high degree by such steam so that the pores of the wood of the tub are open and receptive to the paraffin to which the tub is to be treated. When the steam treatment has progressed for a sufficient length of time, say from thirty seconds to a minute, it will be found that the interior of the tub is sufficiently heated. Steam is now shut off at the valve 35 and that remaining in the jacket 3 serves to aid in heating the paraffin. The platform 7 with the tub is now revolved by means of the handle 17, and the valve 28 is opened, when the steam pressure within the vat 4 will force the highly heated paraffin through the pipe 18 and out through the perforations 21 in fine streams against the highly heated inner surface of the tub 23. The highly heated paraffin coming in contact with the highly heated inner surface of the tub is absorbed by the latter to a sufficient depth for the purposes for which paraffin is usually applied to butter and lard tubs and other containers. The valve 28 is now closed and steam is again introduced into the tub through the pipe 11 for a brief period of time sufficient to melt off any paraffin which may be still remaining on the inner surface of the tub 23. Such paraffin as will gravitate to the platform 7 finds its way through perforations 39 therein onto the dished portion of the table 1 and ultimately through the pipe 26 into the container 27, so that all paraffin not adherent to the tub is recovered.

The pipe 11 serves as a steam jacket for the pipe 18 so that the paraffin within such pipe does not become congealed, or if it does become congealed the preheating operation by the passage of steam through the pipe 11 will bring any such congealed paraffin up to or above the boiling point so that the introduction of pressure into the vat will serve to readily expel such highly heated paraffin through the perforations 21.

What is claimed is:—

1. A machine for the application of paraffin to the interior of receptacles, comprising a rotatable carrier for the articles to be treated, a pipe for conveying steam to the inner surfaces of the articles to be treated while supported upon the carrier to pre-heat them, and another pipe for applying highly heated paraffin to the heated surfaces of the articles being treated while still upon the carrier, the steam pipe being in operative relation to the paraffin conveying pipe to maintain the latter in a heated condition.

2. An apparatus for applying paraffin to the interior of receptacles comprising a rotatable carrier, a steam pipe entering the same in the axis of rotation, another pipe central

to the steam pipe and provided with perforations, means for supplying the steam pipe with steam and the perforated pipe with highly heated paraffin under pressure.

5 3. An apparatus for applying paraffin to the interior of the receptacles comprising a rotatable carrier, a paraffin vat or tank, a steam jacket surrounding the paraffin tank, a steam pipe leading from the jacket through
10 the axis of the carrier, another pipe leading from the paraffin tank through the steam pipe and beyond the same and there perforated, and means for supplying steam to the jacket and steam pipe, and means for
15 forcing the paraffin in a highly heated condition from the paraffin tank through the perforations in the perforated end of the pipe leading from said tank.

4. An apparatus for applying paraffin to
20 the interior of receptacles comprising a suitable table, a rotatable carrier thereon, means for imparting rotative movements to the carrier, a steam jacket on the table, a paraffin tank or vat within the steam jacket, a pipe
25 leading from the steam jacket to and through the carrier in the axis thereof, a pipe leading from the paraffin vat through the steam pipe and beyond the same and there perforated, means for supplying steam to the steam
30 jacket, means for supplying steam to the

paraffin vat, and means for controlling the flow of paraffin from the vat through the pipe to the perforated end thereof.

5. An apparatus for the application of paraffin to the interior of receptacles com- 35
prising a suitable table, a rotatable carrier for the receptacles thereon, means for rotating the carrier, a casing for inclosing the carrier and a receptacle thereon, a steam jacket
40 on the table, a paraffin tank or vat within the steam jacket, a steam pipe leading from the steam jacket through the carrier in the axis thereof, another pipe leading from the paraffin vat through the steam pipe and be-
45 yond the same into the space occupied by the receptacle and there perforated, means for supplying steam to the steam jacket, means for supplying steam to the paraffin vat, means controllable from the outside of the
50 steam jacket for admitting paraffin from the vat to the pipe leading therefrom, and means for recovering paraffin drippings from the article to be treated.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature 55
in the presence of two witnesses.

MARTIN M. HJERMSTAD.

Witnesses:

C. J. TALLE,

AUG. ANDERSON.

*Re. pat. & Bmt. 19,954, Aug. 30, 1897 (91-11) and
Hramer, 12,647, June 3, 1904*