

No. 644,649.

Patented Mar. 6, 1900.

W. WALTER.
CHOCOLATE KETTLE.
(Application filed Jan. 5, 1899.)

(No Model.)

Fig. 1.

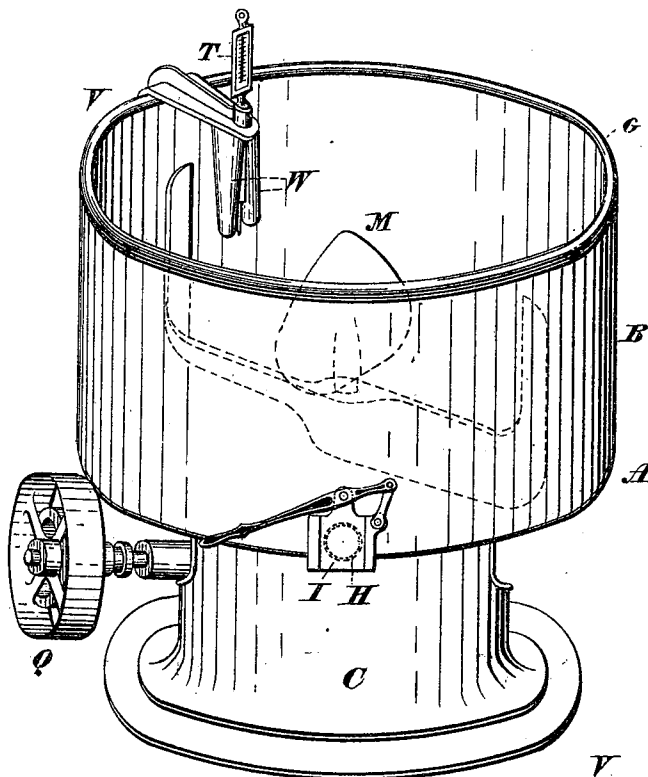
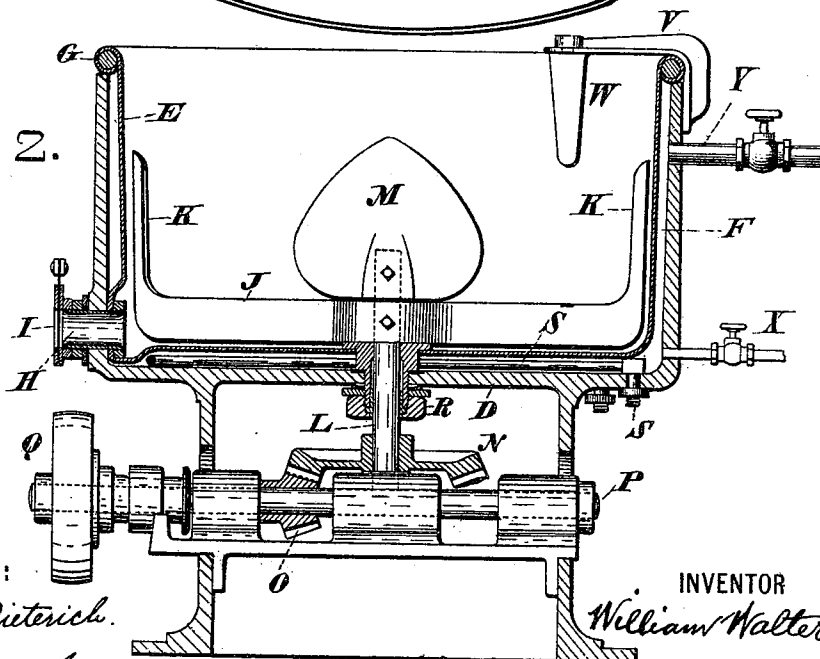


Fig. 2.



WITNESSES:

Edwin H. Dieterich.
Le. Dietmoh.

INVENTOR

William Walter,

BY

Chas. C. Gill
ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM WALTER, OF NEW YORK, N. Y.

CHOCOLATE-KETTLE.

SPECIFICATION forming part of Letters Patent No. 644,649, dated March 6, 1900.

Application filed January 5, 1899. Serial No. 701,205. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WALTER, a citizen of Switzerland, and a resident of New York city, (Rosebank,) in the county of Richmond and State of New York, have invented certain new and useful Improvements in Apparatus for Mixing, Heating, and Cooling Chocolate, of which the following is a specification.

The invention relates to improvements in apparatus for mixing, heating, and cooling chocolate and other materials; and it consists in the novel features and combination of parts hereinafter described, and particularly pointed out in the claims.

In accordance with my invention I provide a mechanical apparatus by means of which the chocolate may be thoroughly mixed and heated without danger of being scorched, and then cooled, and this apparatus, in general terms, comprises a suitably-mounted exterior casing, an inner receptacle to receive the chocolate, a stirrer within said receptacle, mechanism for imparting to said stirrer a constant rotation, and a coil of pipe located within the water-chamber between said receptacle and the adjacent walls of the exterior casing, which coil of pipe will be used as a steam-coil during the heating of the chocolate and remain idle during the circulation of the water to cool the chocolate.

The apparatus embodying my invention will be more fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of an apparatus constructed in accordance with and embodying the invention, and Fig. 2 is a central vertical longitudinal section of same.

In the drawings, A designates the exterior casing of the apparatus or machine, which casing is formed of the upper and lower parts, (lettered B C, respectively,) which parts are separated by a partition D, which operates as the bottom for the upper part B. The upper part B serves as a receiver, as hereinafter described, while the lower part C constitutes the base of the machine or apparatus and as a means of inclosing the gearing by which the stirrer is operated, as indicated more clearly in Fig. 2.

The upper part or receiver B of the casing A receives the copper receptacle E, into which the chocolate to be treated is placed and which, while conforming in general outline to the receiver B, forms between itself and said receiver the chamber F, adapted to contain water, which will surround the receptacle E. The receptacle E will preferably be formed in one piece of copper and have its upper edges turned around the metallic ring G, thereby forming not only a strong upper edge for the receptacle, but an edge which may rest upon the upper edges of the receiver B. The top of the receptacle E is entirely open, and the outlet from said receptacle is through the discharge-nozzle H, which is provided with a suitable gate or valve I, as shown.

Within the receptacle E is mounted the stirrer J, which consists of a horizontal blade adapted to move closely over the bottom of the receptacle E and having at its ends the uprights K, which are adapted to move closely along the inner vertical walls of said receptacle. The stirrer J is mounted upon the vertical shaft L, which extends centrally through the bottom of the receiver B and the bottom of the receptacle E and carries upon its upper end the heart-shaped stirrer-blade M and upon its lower end the beveled gear-wheel N, which wheel N is engaged by the beveled pinion-wheel O, mounted upon the horizontal shaft P, which receives its motion from the power-wheel Q. The shaft L passes through a suitable gland or stuffing-box R, as shown in Fig. 2, so that there will be no leakage around said shaft either from the receptacle E or the receiver B.

The water-chamber F extends entirely around and along the bottom of the receptacle E, and within the base of this chamber F is provided the coil of pipe S, which during the heating and mixing of the chocolate operates as a steam-coil, whereby the water within the chamber F is heated for the purpose thereby of heating the receptacle E and the chocolate or other material within said receptacle. During the cooling of the chocolate the steam is cut off from the pipe S and cold water will be circulated through the chamber F to thereby cool the receptacle E and the chocolate within said receptacle, the

stirrer in the meantime continuing its operation.

As a guide for the attendant in maintaining the chocolate within the receptacle E at a proper temperature and at a uniform temperature a thermometer T is provided, this thermometer T being held by a frame V and having its leg extending downward into the receptacle E between the protecting sides W of said frame. The sides W of the frame V prevent the chocolate from breaking off the leg of the thermometer T and perform the further important function of checking the centrifugal force of the moving chocolate and in this manner cooperating with the stirrer in effecting the thorough mixing of the chocolate.

The receiver B, forming the upper part of the exterior casing A, is provided with the inlet X for water and the outlet Y for water, and preferably the inlet X will be below and of more restricted diameter than the outlet Y.

In the operation of the machine hereinbefore described the water will be introduced to the chamber F, the steam to the coil S, and the chocolate to the receptacle E, and thereupon power will be applied through the wheel Q, shaft P, and gear-wheels O N to the vertical shaft L and stirrers J and M, the result of the operation being that the chocolate introduced into the receptacle E will be thoroughly and uniformly heated and mixed at the proper temperature. A very important result of the operation of the machine is that since the heating of the receptacle E and the chocolate therein is performed by the water within the chamber F there will never be any danger of the chocolate being scorched or burned, since the water within the chamber F cannot by means of the coil S be heated above the boiling-point. After the chocolate has been sufficiently heated and mixed it may be withdrawn from the receptacle E by opening the gate or valve I, or it may be cooled before being withdrawn from the receptacle E by cutting off the steam from the pipe S and circulating cold water through the chamber F, said water being admitted through the inlet X and permitted to escape through the outlet Y. The outlet Y is made of greater diameter than the inlet X, since thereby all danger of the water escaping over the edges of the receiver B is avoided.

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

1. In a chocolate-kettle, the exterior casing comprising the upper part B forming a receiver, and the lower part C constituting a hollow supporting-base, said receiver and base being separated by a substantially-horizontal partition D which forms a bottom for said part B, combined with the receptacle E within said part B and surrounded by the water-chamber

F having an inlet and an outlet for water, the steam-coil S intermediate the bottom of said receptacle E and said partition D and adapted by the contact of its continuous surfaces with the water in said chamber to heat the same, the stirrer within said receptacle, the central vertical shaft connected with said stirrer and extending downward within said hollow base, the horizontal power-shaft extending within said base, and the gear-wheels N, O, within said base and connecting said power-shaft and said vertical shaft; substantially as and for the purposes set forth.

2. In a chocolate-kettle, the exterior casing forming a receiver and having the substantially-flat bottom, and the receptacle E within said receiver and having a substantially-flat bottom, a water-chamber being formed between the sides and bottom of said receiver and the adjacent surfaces of said receptacle, combined with the stirrer within said receptacle, the non-perforated steam-coil S intermediate the bottom of said receptacle and the bottom of said receiver, and the outlet at the lower portion of the side of said receptacle and receiver; substantially as and for the purposes set forth.

3. In a chocolate-kettle, the exterior casing forming a receiver, and the receptacle E within said casing and forming between itself and said casing a water-chamber, said receptacle having a substantially-flat bottom and provided with an outlet at the lower edge of its side, combined with the vertical shaft L extending through the bottoms of said casing and receptacle, the stirrer J secured upon the upper portion of said shaft and comprising the horizontal blade and standards K, K, the central stirrer M connected with the upper end of said shaft, means for rotating said shaft, and the non-perforated steam-coil S in said water-chamber; substantially as and for the purposes set forth.

4. In a chocolate-kettle, the exterior casing, the receptacle E within said casing and forming between itself and said casing the water-chamber, the stationary frame V having its sides W extending downward into said receptacle at one side of the latter in position to check the centrifugal force of the chocolate, and the thermometer held and protected by said frame, combined with the rotatory stirrer within said receptacle, and the non-perforated steam-coil S within said chamber; substantially as and for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 30th day of December, A. D. 1898.

WILLIAM WALTER.

Witnesses:

CHAS. C. GILL,
E. JOS. BELKNAP.