

UNITED STATES PATENT OFFICE.

JOHN SMITH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO HENRY BRANDLE, OF SAME PLACE.

VACUUM-PAN.

SPECIFICATION forming part of Letters Patent No. 572,382, dated December 1, 1896.

Application filed July 1, 1896. Serial-No. 597,721. (No model.)

To all whom it may concern:

Be it known that I, JOHN SMITH, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in the Manufacture of Candy, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of an improved apparatus for manufacturing candy, in which is employed a novel construction of duplex vacuum kettle or receptacle, by which I am enabled to apply the different requisite temperatures simultaneously to the sugar and glucose of which the candy is composed, all as will be hereinafter set forth, and specifically pointed out in the claims.

Figure 1 represents a side elevation of an apparatus embodying my invention, the same being shown partly in section. Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents a section on line *y y*, Fig. 2. Fig. 4 represents a section on line *z z*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a duplex vacuum-kettle, the same consisting of the lower or body portion B and the upper or cap portion C.

D designates a neck depending from said body portion, around which latter is secured the jacket E, into which steam is adapted to be conducted through the inlet-pipe F and withdrawn therefrom through the outlet-pipe G.

H designates a partition or diaphragm which is secured in any suitable manner within the body B, said partition extending upwardly into the cap C, as indicated in dotted lines in Fig. 2.

J designates a coil of pipe located within the compartment J', into which the sugar-syrup is adapted to be placed, said coil having inlets and outlets K and L, respectively, for the heating medium, which may be steam or other fluid.

M designates the steam heating-coil, located in the compartment M', into which the glucose is adapted to be placed, said coil M having the inlet and outlet pipes N and P, respectively.

Q designates the outlet-pipe, leading from the cap C, which may be one continuous pipe or formed in sections, as indicated in Fig. 1, said outlet leading into the chamber or reservoir R, which is provided near its upper portion with a partition or diaphragm S, which has the perforations T therein.

U designates a pipe which leads into the upper portion of the chamber R and is adapted to convey water or other cooling fluid thereinto, so that a condensation of the vapors given off through the pipe Q is effected, the products of condensation falling into the outlet-pipe V, which, it will be understood, is connected with a suction-pump V' or other similar device.

W designates inspection-openings in the cap C, which latter is also provided with the vacuum gages or indicators X, air-cocks Y, and thermometers Z.

Z' designates inlets in the cap, by means of which the sugar-syrups and glucose will be introduced into the chambers J' and M'.

A' designates a shell which is secured to the neck D and is provided with ports therein which communicate with the ports B' C', which are located on either side of the diaphragm H and form outlet-openings for the chambers J and M, respectively.

D' designates an extension of said shell A', to which is pivotally attached the lever E', which has an enlarged portion F', which acts as a valve to close the ports B' and C'.

The operation is as follows: The steam or other heating medium is introduced into the jacket E through the medium of the inlet-pipe F and is withdrawn therefrom through the outlet-pipe G, thus heating the lower portion of the body B in an effective manner. By means of the separate heating-coils J and M their respective chambers J' and M' are capable of being independently heated to different degrees of temperature, which is desirable in candy manufacture, since it is expedient to subject the sugar-syrup which is contained in the compartment J' to a higher temperature than the glucose, which is contained in the compartment M', as stated. The gases or vapors evolved in each of the compartments J' or M' are withdrawn therefrom through the pipe Q by means of the suc-

tion device which is attached to the pipe V, the water or other cooling medium which is introduced through the pipe U falling on the perforated diaphragm S and condensing the vapors which are evolved, thereby forming a tangible body for the pump or suction device to work upon. After the sugar and glucose have been treated to the desired extent, it being of course understood that the valve F' has remained closed while the above operation has taken place, the said valve can be opened, as seen in Fig. 4, and the sugar and glucose which have been sufficiently treated are allowed to fall upon a table or bed, upon which they can be worked to the desired degree.

Especial attention is called to the fact that by having the kettle subdivided in the manner described, and by employing separate heating means in the several compartments, I am enabled to subject the material in each compartment to different intensities of heat, and when the operation is completed the contents can be quickly and expeditiously removed from the kettle and the compartments thereof readily refilled. It will also be noted that by applying a uniform degree of heat to the exterior of the body B and variable degrees of temperature to the interior compartments very effective results are attained.

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

1. A vacuum-kettle, an upright partition supported within said kettle forming compartments, means within each compartment for independently heating the same, a single exit-pipe receiving from both compartments simultaneously and having a valve thereon.

2. A duplex vacuum-kettle, consisting of a body, a cap therefor, a jacket around said body, a partition in the latter, a heating-pipe located in each compartment on either side of

said partition, means for conducting a heating fluid to and from each of said pipes, an outlet-pipe leading from said cap, a chamber in communication with said outlet, a perforated diaphragm in said chamber, means for introducing a cooling medium above said diaphragm, and means for withdrawing the products of condensation from said chamber.

3. A duplex vacuum-kettle, consisting of a body, a cap therefor, a partition located within the same, a heating-jacket surrounding said body, means for independently heating each side of said partition, independent outlet-ports communicating with the lower portion of said body, and a valve for controlling said ports.

4. A duplex vacuum-kettle, an upright partition, located within the same, a heating-jacket surrounding said kettle, means for independently heating each side of said partition, independent outlet-ports communicating with the lower portion of said kettle, and a valve for controlling said ports.

5. A duplex vacuum-kettle, having a jacket surrounding the lower portion, a partition in the latter forming compartments, means for independently heating said compartments, an outlet from the upper portion of said kettle, a chamber into which said outlet discharges, an apertured diaphragm in the upper portion of said chamber, means for cooling and condensing the gaseous products evolved, means for withdrawing the same from said chamber, an outlet-passage leading from said body at either side of said partition, and a valve controlling each passage, whereby the contents of both compartments of the kettle can be simultaneously withdrawn.

JOHN SMITH.

Witnesses:

JOHN A. WIEDERSHEIM,
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