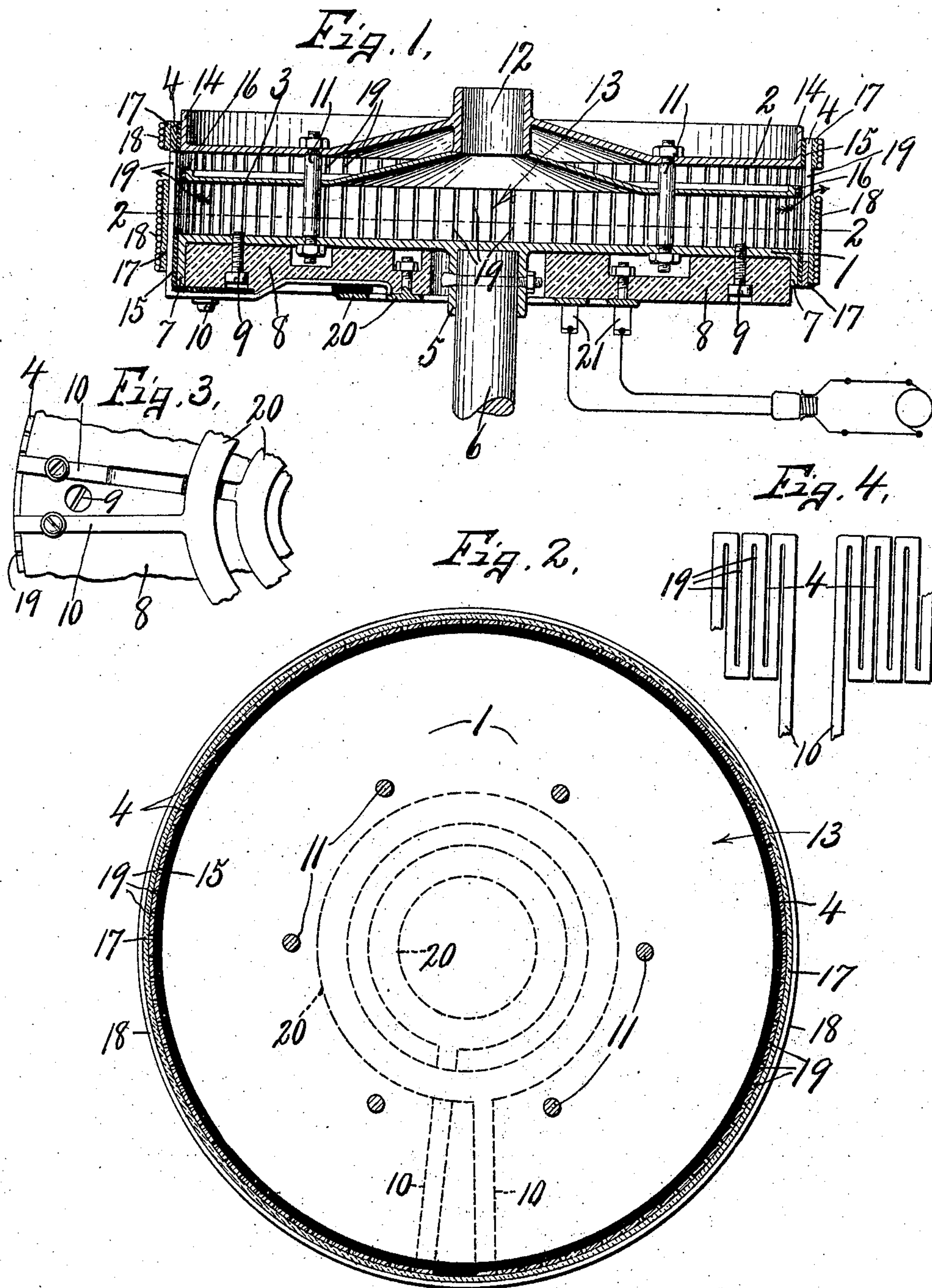


No. 847,366.

PATENTED MAR. 19, 1907.

R. E. POLLOCK.
CANDY SPINNING MACHINE.
APPLICATION FILED JUNE 13, 1906.



WITNESSES:

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CANDY-SPINNING MACHINE.

No. 847,366.

Specification of Letters Patent.

Patented March 19, 1907.

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To all whom it may concern:

Be it known that I, RALPH E. POLLOCK, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Candy-Spinning Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in candy-spinning machines comprising, essentially, a rotary sugar-receptacle having a perforated peripheral band constituting an electric heater against which the sugar is centrifugally forced and through which the sugar emerges in the form of a fine delicate candy-wool to be used as a confection.

The essential object is to provide a simple, practical, and durable rotary receptacle with a comparatively large receiving-chamber having a comparatively small annular space adjacent to the heater for the purpose of retarding the centrifugal action of the sugar through the heater sufficiently to cause the desired liquefaction of the sugar by said heater and to cause it to emerge in comparatively fine jets under high centrifugal pressure, thereby yielding an extremely fine continuous stream of candy-wool.

Another object is to simplify the manner of attaching the heater to the rotary receptacle and also to enable the said receptacle to be mounted upon a suitable motor-shaft for direct drive.

Other objects and uses will appear in the following description.

In the drawings, Figure 1 is a longitudinal vertical sectional view of a candy-spinning machine embodying the features of my invention. Fig. 2 is a horizontal sectional view taken on line 2-2, Fig. 1. Fig. 3 is an inverted plan of a portion of the device seen in Fig. 1, showing the manner of connecting the heater-terminals with the collector-rings. Fig. 4 is an enlarged face view of the terminal ends of the heater.

The candy-receptacle comprises, essentially, a bottom plate 1, a top plate 2, an intermediate horizontal partition 3, and an electric heater-band 4, encircling the periphery of and clamped to the bottom and top sections 1 and 2 of the receptacle. The bottom plate 1 is provided with a central hub 5, which is secured to the upper end of a motor-

shaft 6 for direct drive from a suitable electric motor or other source of power, (not shown,) but which is capable of imparting a high degree of speed—as, for instance, three or four thousand revolutions per minute. This bottom plate 1 is comparatively flat and has its outer edge formed with a downturned annular flange 7, within which is located a ring 8, of insulating material, which is secured to the bottom plate by suitable fastening means, as screws 9, and serves as a support and insulator for the terminals, as 10, of the heater 4.

The top plate 2 is spaced apart some distance from and above the bottom plate 1, to which it is clamped by stay-bolts 11, and is provided with a central inlet-opening 12, through which the sugar may be fed into the underlying chamber 13 between the partition 3 and bottom wall 1. The diameter of the top plate 2 is substantially equal to that of the bottom plate 1, and its marginal edge is turned upwardly, forming an annular flange 14, which not only reinforces and stiffens the plate 2 and permits the latter to be made of comparatively thin sheet or cast metal, but also forms a conveniently broad face for the attachment of the heater-band 4. This heater-band 4 is preferably made of a single piece of thin sheet metal of high electric resistance, such as platinum or German silver, and is of sufficient length to practically encircle the entire circumference of the plates 1 and 2, while its vertical width is substantially coextensive with the combined vertical depth of the space between the plates 1 and 2 and flanges 7 and 14. This heater-band is slotted transversely alternately from opposite edges throughout its entire length, the slots being disposed in rather close proximity to each other and extending across the space between the bottom and top plates, said band being insulated from the plates 1 and 2 by interposed bands 15 of insulating material, such as mica, surrounding the flanges 7 and 14, respectively, leaving the portion of the heater-band 4 between the plates 1 and 2 exposed to the intervening chamber.

The intermediate horizontal partition 3 extends from the inner end of the inlet 12 toward the heater-band 4, and consists of a sheet-metal plate circular in plan, but of less diameter than the inner diameter of the heat-

ing-band, leaving a narrow annular space between its margin and the inner face of the heater-band, the marginal edge of said intermediate disk being surrounded by a circular strip 16 of insulating material to prevent short circuits or leakage of the current from the heating-band. This intermediate partition 3 forms the upper side of the greater portion of the heating-chamber 13, but is separated from the top plate 2 a less distance than from the bottom plate, and the portion of the heater-band surrounding the space between the intermediate plate and bottom plate is surrounded by a band 17 of insulating material, as asbestos, which, together with the heating-band, is held in place by wire clamps 18. The upper portion of the heating-band 4 above the lower face of the top plate 2 is surrounded by an additional band 17 of insulating material, as asbestos, which is clamped around the upper edge of the heating-band by wires 18. This manner of securing and inclosing the heater-band leaves the upper portion of the slots therein between the plates 2 and 3 open to atmosphere for the discharge or exit of the spun product.

In view of the fact that the receptacle is rotated at a high rate of speed and contains within the chamber 13 a considerable quantity of sugar the latter is centrifugally forced under high pressure against the inner face of the heater-band between the plates 1 and 3, where said sugar is partially liquefied by heat and is forced upwardly between the periphery of the disk 3 and inner face of the heater-band and emerges through the upper ends of the slots, as 19, in the heater-band between the plates 2 and 3 and above the lower asbestos band 17, which constitutes a baffle-plate to cause the upward deflection of the partially-liquefied sugar to escape through the constricted outlets in the form of a fine white sugar-wool. The ends of the band 4 are brought nearly together at one side of the receptacle, and their terminal ends 10 are brought under and against the insulating-block 8, where they are insulated from each other and electrically connected respectively to annular rings 20. These rings 20 are also secured to the insulating-block 8 and are insulated from each other and rotate with the receptacle, each being in electrical contact with one of a pair of brushes 21, adapted to be connected in any desired manner to a source of electric energy, not necessary to herein illustrate or describe.

In operation the receptacle comprising the plates 1, 2, and 3 and other parts mounted thereon are rotated at a high rate of speed, during which rotation the sugar is fed through the inlet 12 into the chamber 13, where it is centrifugally forced against the heater-band 4, the heat of which partially liquefies the sugar, and this partially-liquefied sugar is then forced by the same centrifugal pressure

upwardly between the periphery of the plate 3 and inner face of the heater-band 4 and emerges in the form of a candy-wool through the upper ends of the slots 19 above the lower insulator-band 17 and its fastening means 18, the spun-sugar product escaping to atmosphere and may be collected in a suitable pan or other instrument interposed in its path during the revolution of the receptacle.

What I claim is—

1. A candy-spinning machine comprising bottom and top plates spaced apart forming an intervening chamber having an inlet in the top, an electric heater-band clamped to the plates and surrounding said chamber, a circular partition interposed between and spaced apart from said plates and of slightly less diameter than the inner diameter of the heater-band forming a narrow intervening annular space between the edge of the partition and heater-band, means to rotate the plates and parts attached thereto for centrifugally forcing the material which may be fed into the chamber against the heater-band, means for deflecting the heated product upwardly between the periphery of the intermediate plate or partition, and inner face of the heater-band, the portion of the heater-band between said partition and top plate being perforated to permit the escape of said product.

2. A machine for spinning candy and confections, consisting of a revolving receptacle having an inlet in its top and a circular band forming its sides, said band consisting of a thin strip of metal of high electric resistance forming a heater, and having a series of vertical slots therethrough for the escape of the spun candy, a body of insulating material secured to the receptacle to revolve therewith, separate annular rings of electric conducting material secured to said insulating-body and each connected electrically to one of the terminals of the heating-band, and contact devices fixed from rotation with the receptacle and each bearing upon one of the rings.

3. In a candy-spinning machine, a receptacle comprising bottom and top plates spaced apart forming an intervening chamber, a perforated electric heater-band encircling said chamber and insulated from said plates, means for clamping the heater-band to said plates, an intermediate plate of less diameter than the inner diameter of the heater-band, and a band of insulating material surrounding the space between the intermediate and lower plates, but terminating below the lower face of the upper plate.

4. A candy-spinning machine, comprising a receptacle having an inlet concentric with its axis of rotation, means for rotating said receptacle, the receptacle having a circular side wall consisting of an electric heater-band having transverse slots communicating with the interior of the receptacle, bands of insulat-

ing material between the heater-band and bottom and top of the receptacle, and means for deflecting the heated product from the bottom toward the top so as to issue through the upper sides of the slots.

5 5. In a candy-spinning machine, a receptacle and means for rotating it, said receptacle having an inlet in its top concentric with its axis, and having its sides circular and consisting of a thin metal band of high electric resistance slotted transversely, means to clamp said band to the bottom and top of the receptacle, means for deflecting the heated product upwardly along the sides of the heating-band so as to emerge to atmosphere through the upper ends of the slots.

10 6. In a centrifugal candy-spinning machine, a revoluble receptacle having a vertically-slotted circumferential band forming a retaining-screen, means for heating said screen and a band of insulating material surrounding the lower portion of the screen leaving

ing portions of the upper ends of the vertical slots open.

7. In a centrifugal candy-spinning machine, a receptacle having lower and upper plates spaced apart forming an intervening chamber, a vertically-slotted band clamped to the plates and surrounding said chamber, means for heating said band, and an imperforate band of heat-resisting material surrounding the heater-band and lower portion of said chamber, said band terminating at its upper edge some distance above the bottom plate and also some distance below the top plate leaving a clear exit through the slots of the heater-band above the heat-resisting band for the escape of the spun candy.

In witness whereof I have hereunto set my hand this 2d day of June, 1906.

RALPH E. POLLOCK.

Witnesses:

H. E. CHASE,
MILDRED M. NOTT.