F. WESTERMAN.

DEPOSITING MACHINE.

APPLICATION FILED FEB. 7, 1914.

1,121,434.

Patented Dec. 15, 1914.

3 SHEETS—SHEET 1.

Fig. 1.

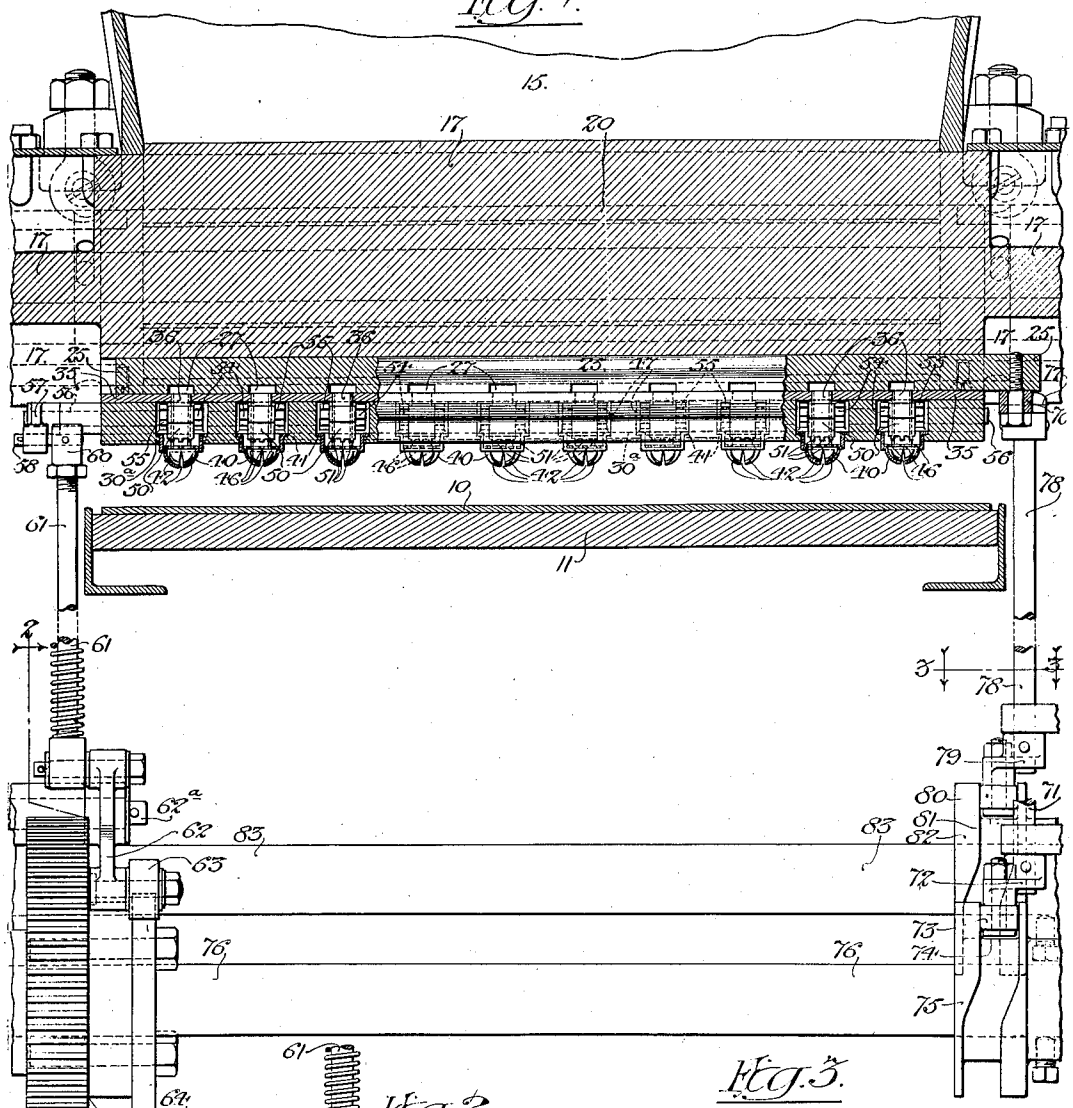


Fig. 2.

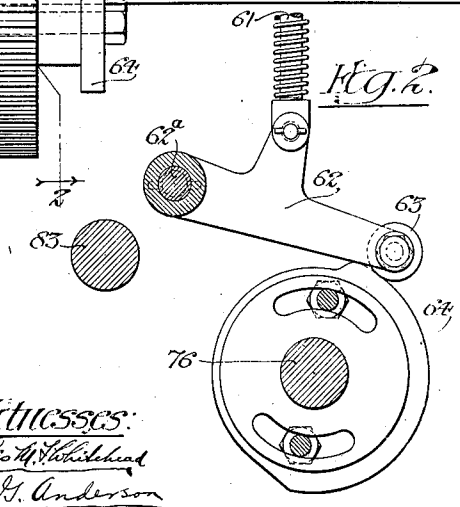
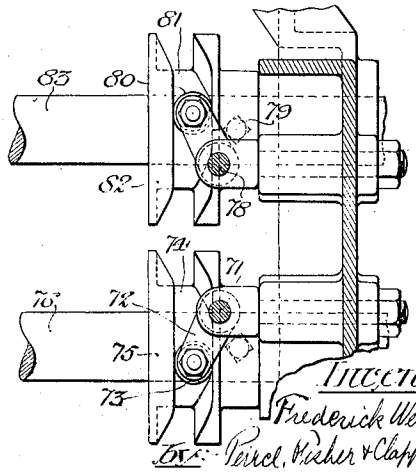


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 4.

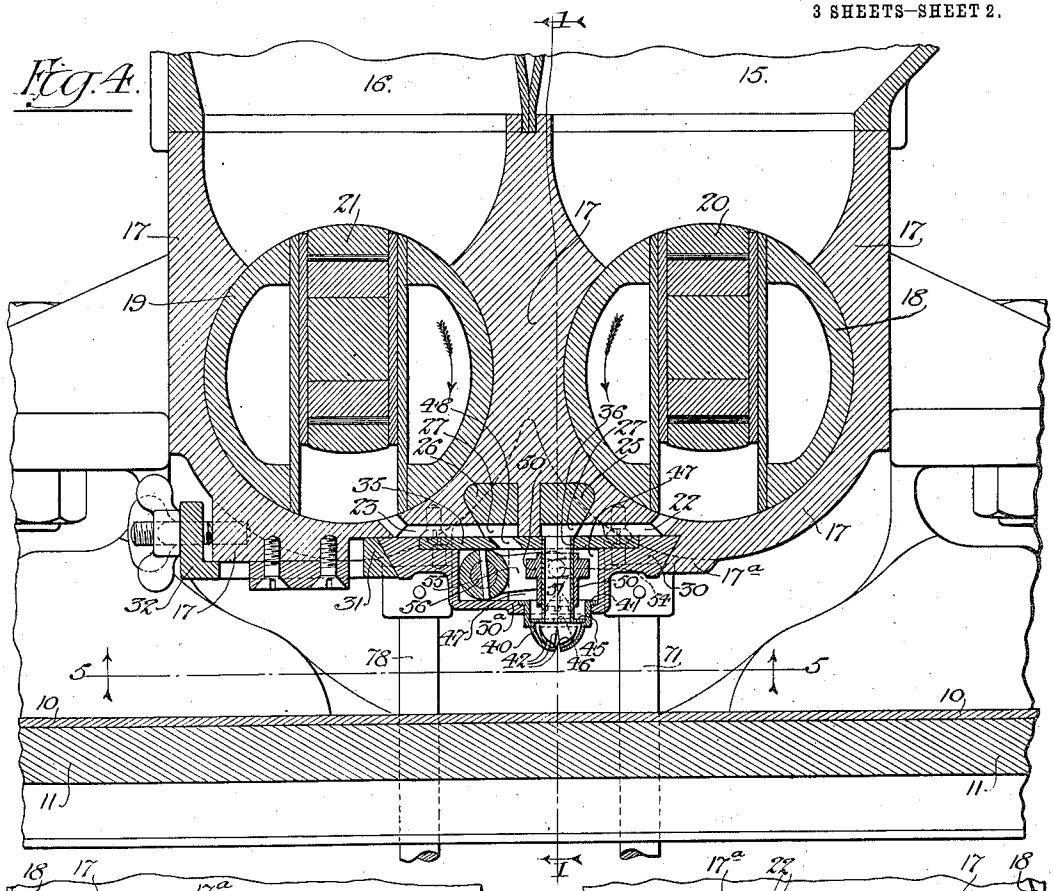
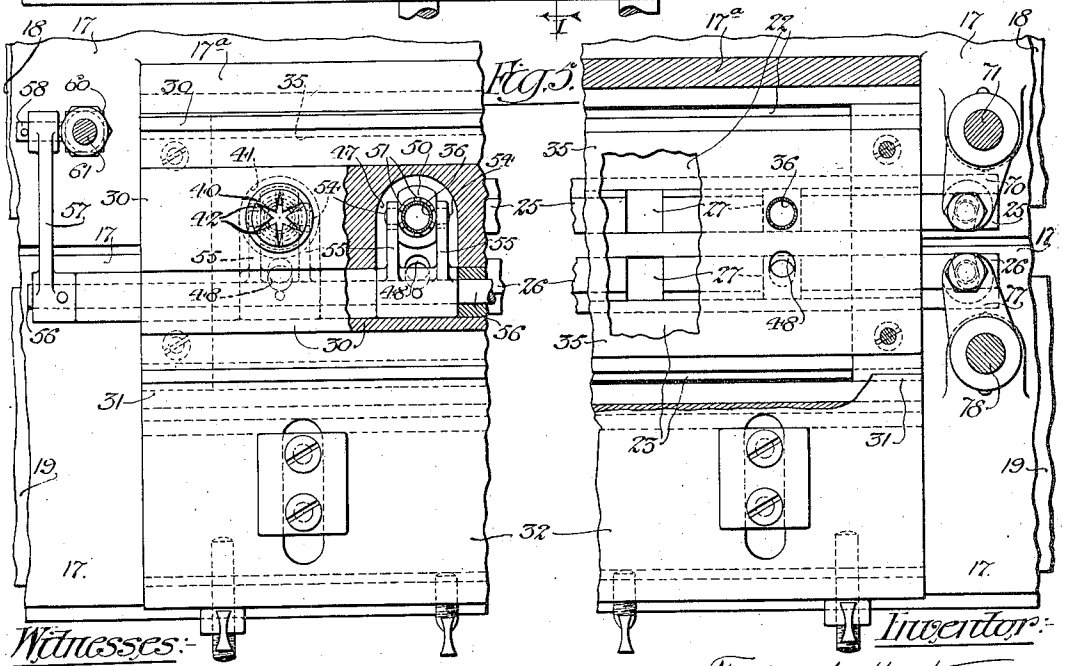


Fig. 5.



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3 SHEETS—SHEET 3.

Fig. 6.

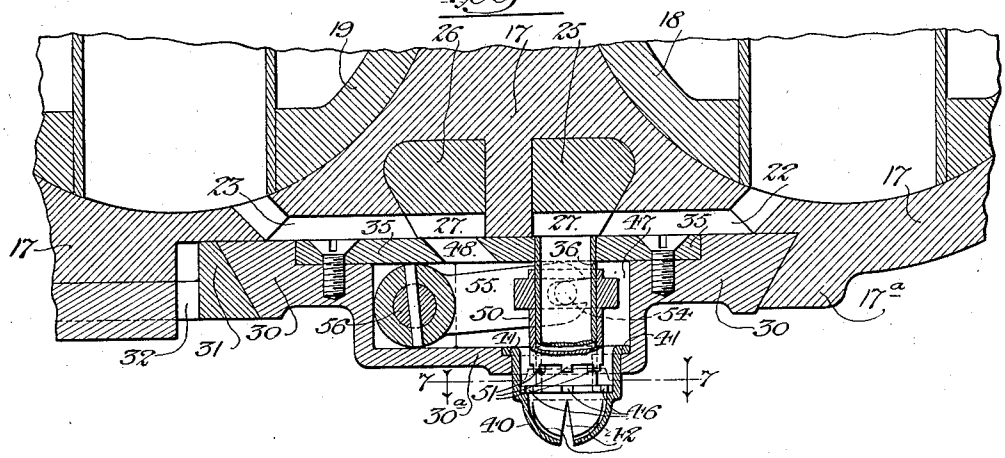


Fig. 7.

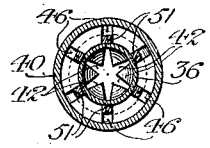


Fig. 8.

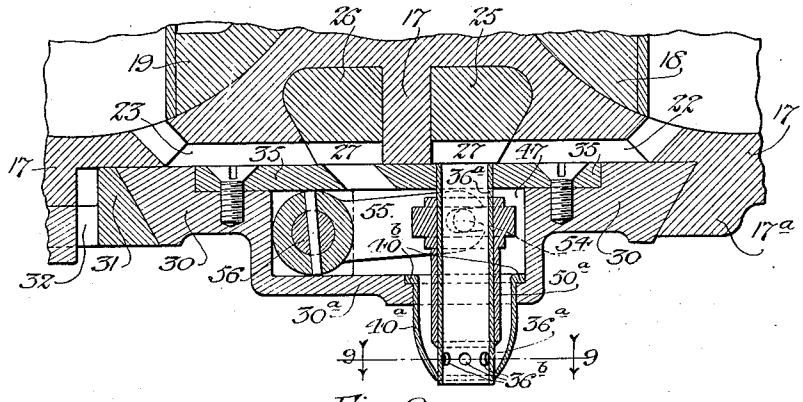


Fig. 9.

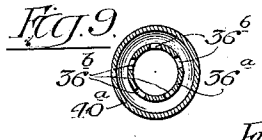


Fig. 11.

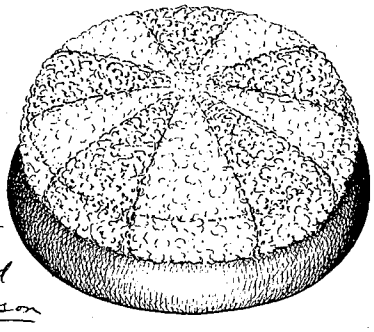
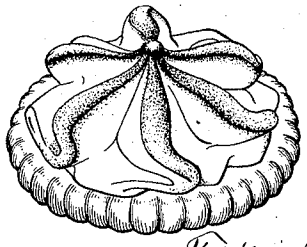


Fig. 10.



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UNITED STATES PATENT OFFICE.

FREDERICK WESTERMAN, OF CHICAGO, ILLINOIS.

DEPOSITING-MACHINE.

1,121,434. Specification of Letters Patent. Patented Dec. 15, 1914.

Application filed February 7, 1914. Serial No. 817,313.

To all whom it may concern:

Be it known that I, FREDERICK WESTERMAN, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Depositing-Machines, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention has relation more particularly to that class of depositing machines designed for depositing marshmallow and other confections upon the upper surface of cakes that are fed in successive rows beneath the depositing mechanism. An example of this type of machine is set forth in my application for Letters Patent filed by me in the United States Patent Office May 29, 1911, Serial No. 630,268, and in an application filed by me in the Patent Office December 20, 1913, Serial No. 807,851.

The present invention has for its object to provide improved means for giving a more ornamental appearance to the deposits of confections that are made upon the surface of the cakes and the invention consists in the features of novelty hereinafter described, illustrated in the accompanying drawings and particularly pointed out in the claims at the end of this specification.

The mechanism for advancing the cakes whereon the confections will be deposited and the mechanism for operating the plungers by which the confections may be delivered from the receptacles wherein they are contained are the same as set forth in my hereinbefore mentioned application Serial No. 807,851, and I have not deemed it necessary, therefore, to illustrate in detail all of such mechanism, as it is not essential to the present invention.

Figure 1 is a view in vertical section on line 1—1 of Fig. 4. Fig. 2 is a detail view in vertical section on line 2—2 of Fig. 1. Fig. 3 is a view in horizontal section on line 3—3 of Fig. 1. Fig. 4 is an enlarged view in vertical cross section through the center of Fig. 1. Fig. 5 is an inverted or bottom view of the depositing mechanism, parts being shown in section and parts being broken away. Fig. 6 is a view in section similar to Fig. 4 (parts being omitted), this view being upon a larger scale than Fig. 4. Fig. 7 is a view in horizontal section on line 7—7 of Fig. 6. Fig. 8 is a view similar to Fig. 6, but showing a modified embodiment of the invention. Fig. 9 is a view in horizontal section on line 9—9 of Fig. 8. Fig. 10 is a detail perspective view showing a cake having confections deposited thereon in ornamental pattern by the mechanism illustrated in Figs. 1 to 6 of the drawings. Fig. 11 is a detail perspective view of a cake having confections deposited thereon in ornamental pattern by the modified mechanism illustrated in Figs. 8 and 9 of the drawings.

In the drawings, 10 designates the endless carrier that will be supported upon a vertically movable table 11, this carrier serving to intermittently advance the rows of cakes upon the tops of which the deposits of marshmallow and chocolate or other like confections will be made. This carrier belt and table may be actuated by the same mechanism as is illustrated in my before mentioned application Serial No. 807,851, and such mechanism, therefore, need not be more particularly illustrated or described, as it forms no part of the present invention.

Suitably supported above the endless carrier 10 by the main frame of the machine are the receptacles 15 and 16 that will contain, respectively, the marshmallow and chocolate or like confections that are to be deposited upon the cake. Beneath the receptacles 15 and 16 is placed the casting 17 having cylindrical openings extending from end to end thereof and within such cylindrical openings are mounted the two cylindrical plunger carriers 18 and 19. These plunger carriers 18 and 19 are provided, respectively, with plungers 20 and 21 by which, as the plunger carriers are rotated, the confections will be discharged through channels 22 and 23 leading through the lower part of the casting 17. The construction and function of the plunger carriers and the mechanism for operating them and the plungers may be the same as in my before mentioned application Serial No. 807,851. From end to end of the lower part of the central portion of the casting 17 are formed dovetailed channels within which are mounted, in manner free to reciprocate, the slide valves 25 and 26, these slide valves serving to control the passage of confections through the channels 22 and 23, respectively, each of these slide valves 25 and 26 being formed with a series of channels 27 (see Fig. 6).

Beneath the central portion of the casting

17 extends a chambered casting or casing 30, the longitudinal edges of which are preferably beveled to form a dovetailed engagement with the flange 17ª of the casting 17 and with a corresponding beveled bar 31 formed at the inner side of an adjustable plate or casting 32. The means shown for retaining the chambered casting 30 in position beneath the casting 17 is the same as that set forth in my above mentioned application Serial No. 807,851. Over the top of the chambered casting 30 extends a cover plate 35 that is held by screws within the recessed upper portion of the casting. In this cover plate 35 are formed a series of holes within which are fixed the upper ends of the delivery pipes 36 arranged in a row from side to side of the machine. These delivery pipes 36 extend downward and terminate adjacent the discharge openings in the bottom of the chambered casting or casing 30. In the bottom plate 30ª are formed a series of circular openings adapted to receive the cup-shaped discharge nozzles or nipples 40. The upper portion of each of the nipples 40 is formed with a flange 41 that engages with the bottom plate 30ª when the cup-shaped nipples are set in position within the openings of the bottom plate, as shown. By reference more particularly to Figs. 5 and 7 of the drawings, it will be seen that the lower part of each of the nipples 40 is formed with a plurality of V-shaped slots 42 radiating from the central open part of the nipples. Upon the annular flange or shoulder immediately above the slotted portion of each of the nipples rests the annular flange 45 that projects from the lower end of each of the delivery pipes 36, this annular flange 45 being formed with a series of radial slots 46 that are arranged over and adjacent to the slots 42 of the discharge nipples 40. The casting or casing 30 is formed with a chamber 47 that is connected by a series of channels 48 with the channel 23, and through this chamber 47 will pass the chocolate or like confection coming from the receptacle 16 at the same time that the marshmallow or like confection coming from the receptacle 15 passes through the several delivery pipes 36.

Around each of the delivery pipes 36 is fitted, in manner free to reciprocate thereon, a tubular valve 50, the lower end of which is formed with a series of depending parts or projections 51 adapted to pass into and obstruct (when the valve is in closed position) the corresponding radial slots or openings 46 formed in the flange 45. At opposite sides each of the tubular valves 50 is provided with projecting studs or trunnions 54 that are engaged by the rocking arms 55 that are fixed to a valve operating shaft 56, one end of this shaft projecting through the end of the chambered casting 30. To the outer end of the valve operating shaft 56 is fixed one end of a crank arm 57, the opposite end of this arm 57 being pivotally connected to a pin 58 that projects from the head 60 of a rod 61. The lower end of the rod 61 is pivotally connected to a pivoted rock arm 62 that carries at its free end a roller 63 adapted to ride upon the periphery of a cam wheel 64 that is adjustably mounted upon the shaft 65. The rod 61 and the mechanism by which it is actuated being the same as shown in my hereinbefore mentioned application Serial No. 807,851, it need not be more particularly described. The vertically reciprocating movement of the rod 61 will cause the valve actuating shaft 56 and rock arms 55 to raise and lower the tubular valves 50 and, when these valves are lowered, the projections 51 at their lower ends will enter the radial slots or openings 46 of the flange 45 at the lower end of each of the delivery pipes 36. By this means the flow of chocolate or other confections from the chamber 47 through the slotted discharge nipples 40 will be controlled.

The mechanism for actuating the slide valves 25 and 26 is the same as that illustrated in my hereinbefore mentioned application Serial No. 807,851. As shown, there is attached to one end of the slide valve 25 a crank 70 secured to the upper end of a rod 71 and to the lower end of this rod 71 is secured a crank 72 through which passes a bolt carrying a roller 73 that sets within a cam groove 74 of a cam wheel 75 mounted on the shaft 76. Similarly, one end of the valve 26 is connected to a crank 77 at the upper end of the rod 78, the lower end of this rod being provided with a crank 79 through which passes a bolt provided with a roller 80 that travels in a cam groove 81 of a cam wheel 82 on the shaft 65. Hence, it will be seen that as the shafts 65 and 76 are rotated, as by the mechanism set forth in my above mentioned application Serial No. 807,851, a reciprocating movement will be imparted to the valves 25 and 26.

From the foregoing description it will be seen that as the marshmallow is forced by the plungers 20 into the delivery pipes 36, it will pass into the discharge nipples 40 and will issue through such nipples in columns of starlike formation in cross section onto the surface of the cakes to be coated. At the same time the chocolate or like confection forced by the plunger 21 into the chamber 47 will pass around the lower ends of the delivery pipes 36 and through the radial slots or openings 46 into the discharge nipples and onto the starlike points or edges of the columns of marshmallow, thereby coating or coloring such points or edges, as indicated in Fig. 10 of the drawings. By this means an ornamental and very attractive appearance is given to the deposits of

confection upon the surfaces of the cakes. When the slide valves 25 and 26 are actuated to cut off the passage of confections from the receptacles 15 and 16, the tubular valves 50 will also be actuated, causing the points or projections 51 at the lower ends thereof to enter the radial slots or openings 46 and cut off the flow of confection from the chamber 47.

In the modified form of the invention illustrated in Figs. 8 and 9 upon Sheet 3 of the drawings, the construction of the parts is the same as that hereinbefore described, with the exception of the shape and arrangement of the lower portion of the delivery pipes 36^a and of the discharge nipples 40^a. In this form of the invention the lower ends of the delivery pipes 36^a set snugly within openings formed in the nipples 40^a, and the marshmallow or like confection passing through the delivery pipes 36^a will issue therefrom in circular streams or columns. Adjacent the lower end of each of the delivery pipes 36^a is formed a series of holes 36^b that communicate with the annular space formed between the lower portion of each of the delivery pipes and the corresponding nipple 40^a. These openings 36^b correspond in function to the radial slots or openings 46 in the construction hereinbefore described, in that they serve to cause the chocolate or like confection to pass in divided streams onto the surface of the marshmallow or like confection passing through the delivery pipes 36^a, and, obviously, whether these openings be formed in a plate or flange arranged horizontally, as the flange 45, at the bottom of each of the delivery pipes 36 hereinbefore described, or in a plate arranged vertically and in line with the delivery pipes 36^a, as shown in Fig. 8, the result of dividing the coating material into streams will be the same.

In this form of the invention each of the tubular valves 50^a that surrounds a corresponding delivery pipe 36^a is arranged, when in closed position, to cover the annular series of holes 36^b, but the mechanism for operating the tubular valves 50^a is the same as that hereinbefore described. By reference to Sheet 3 of the drawings it will be seen that as the marshmallow passes through the delivery pipes 36^a, chocolate or like confection will pass through the holes 36^b onto the outer face of the marshmallow so long as the tubular valves 50^a remain in open position. When, however, the slide valves 25 and 26 are operated to cut off the flow of marshmallow and chocolate, the tubular valves 50^a will be brought to closed position and the flow of chocolate or like confection through the holes 36^b will be cut off at such point.

In practice it is found that with this apparatus each of the cakes will be coated on its surface with a deposit of confections, as shown in Fig. 11; that is to say, that portion of each column of marshmallow that passes opposite the openings 36^b will be coated with chocolate or the like and, as the column of marshmallow is forced against the surface of the cake, the column will spread out to the edge of the cake, while, when the supply of confections is cut off, the column of marshmallow will break away at the end of the discharge nipple and will draw inward toward the center of the cake, leaving the coated upper surface of the cake with alternate coated and uncoated portions, as illustrated in Fig. 10.

By means of the radial slots or openings 46 in the plates 45 at the lower ends of the delivery pipes 36, as in the main form of the invention above described, and as well also by means of the holes or openings 36^b adjacent the lower ends of the delivery pipes 36^a, shown in the modified form of the invention, (Figs. 8 and 9), a thin or light coating of chocolate or coloring material can be uniformly applied in manner above described; and, the valves whereby the radial slots 46 and the openings 36^b are closed serve also to effectively prevent the clogging of the slots or openings as by the lodgment therein of any fibrous material.

I wish it understood that the details of construction above set out may be varied without departing from the spirit of the invention, and that features of the invention may be employed without its adoption as an entirety.

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

1. In a machine of the character described, the combination with a plurality of receptacles for containing different materials to be deposited and with means for delivering said materials from said receptacles, of a delivery pipe for the passage therethrough of material from one of said receptacles, a chamber connected with the other of said receptacles for receiving material therefrom and into which chamber said delivery pipe projects, a nipple on said chamber extending around and spaced from said delivery pipe, a plate or part provided with a series of holes and arranged opposite the space around the delivery pipe, and valve mechanism within said space for controlling the flow of material through said holes.

2. In a machine of the character described, the combination with a plurality of receptacles for containing different materials to be deposited and with means for delivering said materials from said receptacles, of a series of delivery pipes for the passage therethrough of material from one of said receptacles, means for permitting the flow of material from the other of said receptacles around said delivery pipes, a series of nip-

ples arranged about the ends of said delivery pipes and spaced therefrom, a plate arranged opposite the space around the delivery pipe and formed with a circular series of holes for the passage of material from the space outside the delivery pipes onto the surface of the material passing through said pipes, and valve mechanism for controlling the flow of material through said holes.

3. In a machine of the character described, the combination with a plurality of receptacles for containing different materials to be deposited and with means for delivering said materials from said receptacles, of a series of delivery pipes for the passage therethrough of material from one of said receptacles, means for permitting the flow of material from the other of said receptacles around said delivery pipes, a series of nipples surrounding the lower ends of said delivery pipes and spaced therefrom, said nipples being provided with radial slots, a perforated plate within the space between said nipples and the lower ends of said delivery pipes, and valve mechanism for closing said perforated plates.

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