

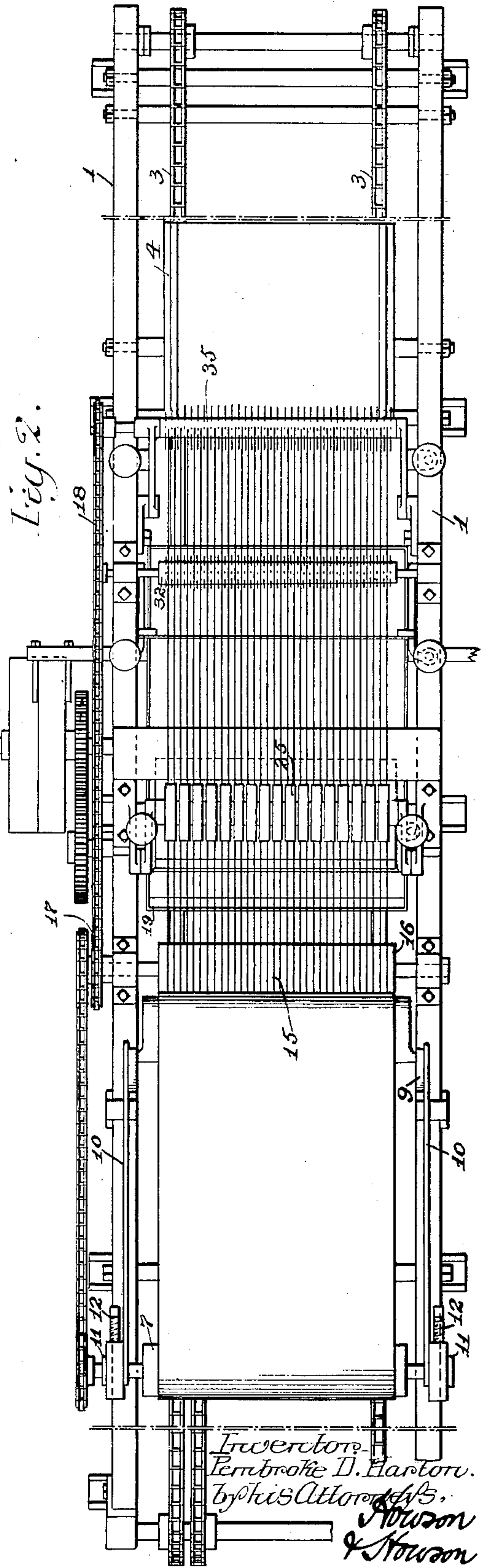
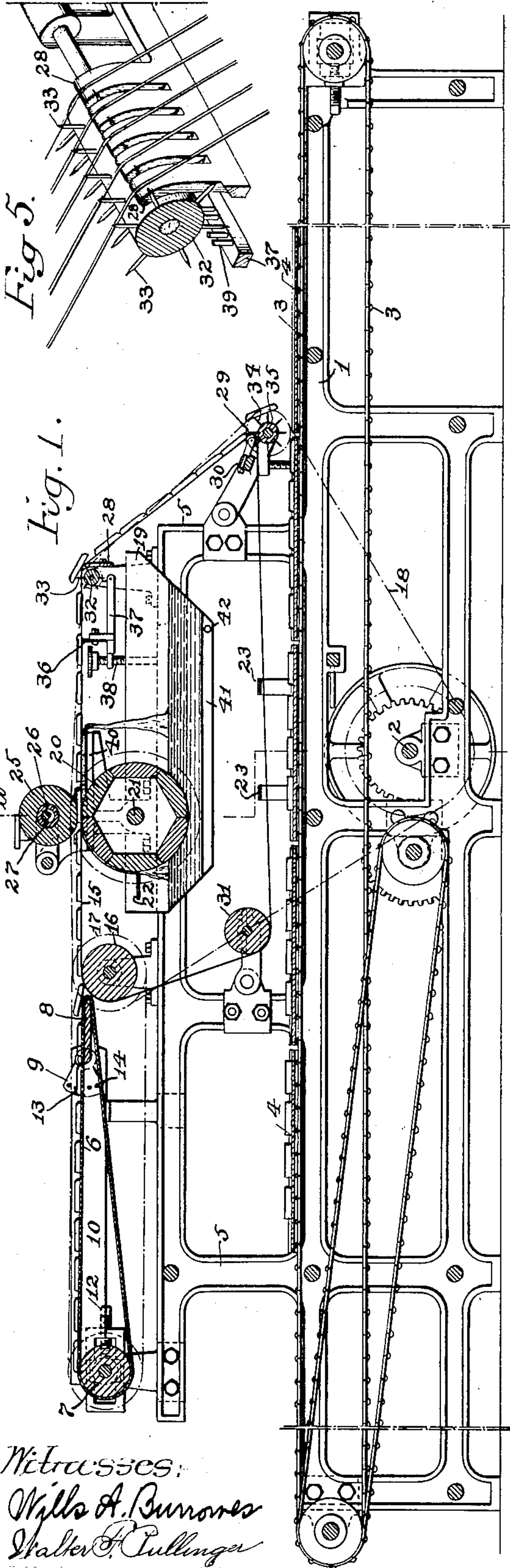
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CAKE COATING MACHINE.

APPLICATION FILED FEB. 21, 1908.

Patented Jan. 26, 1909.

2 SHEETS—SHEET 1.

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Fig. 5.

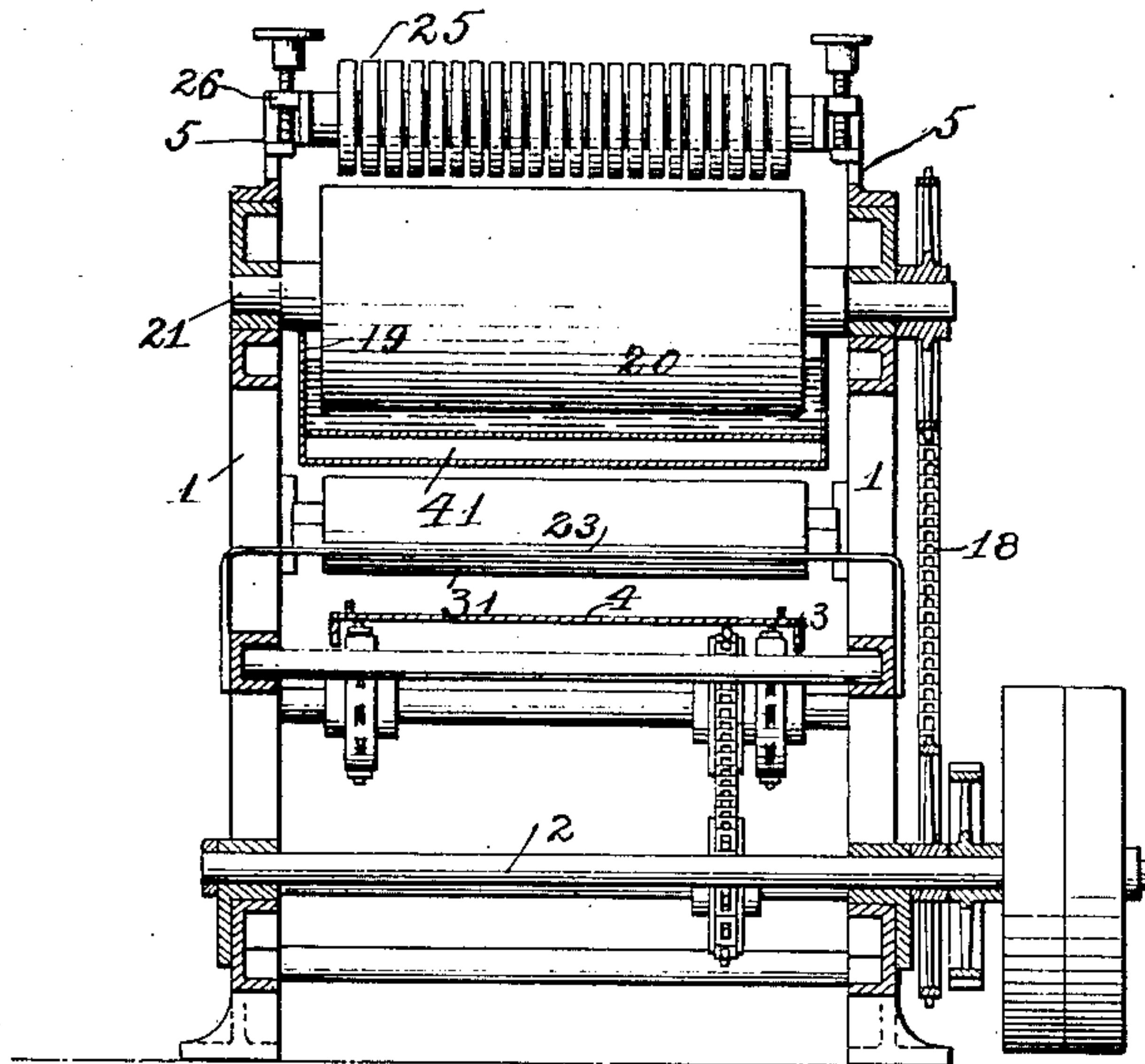
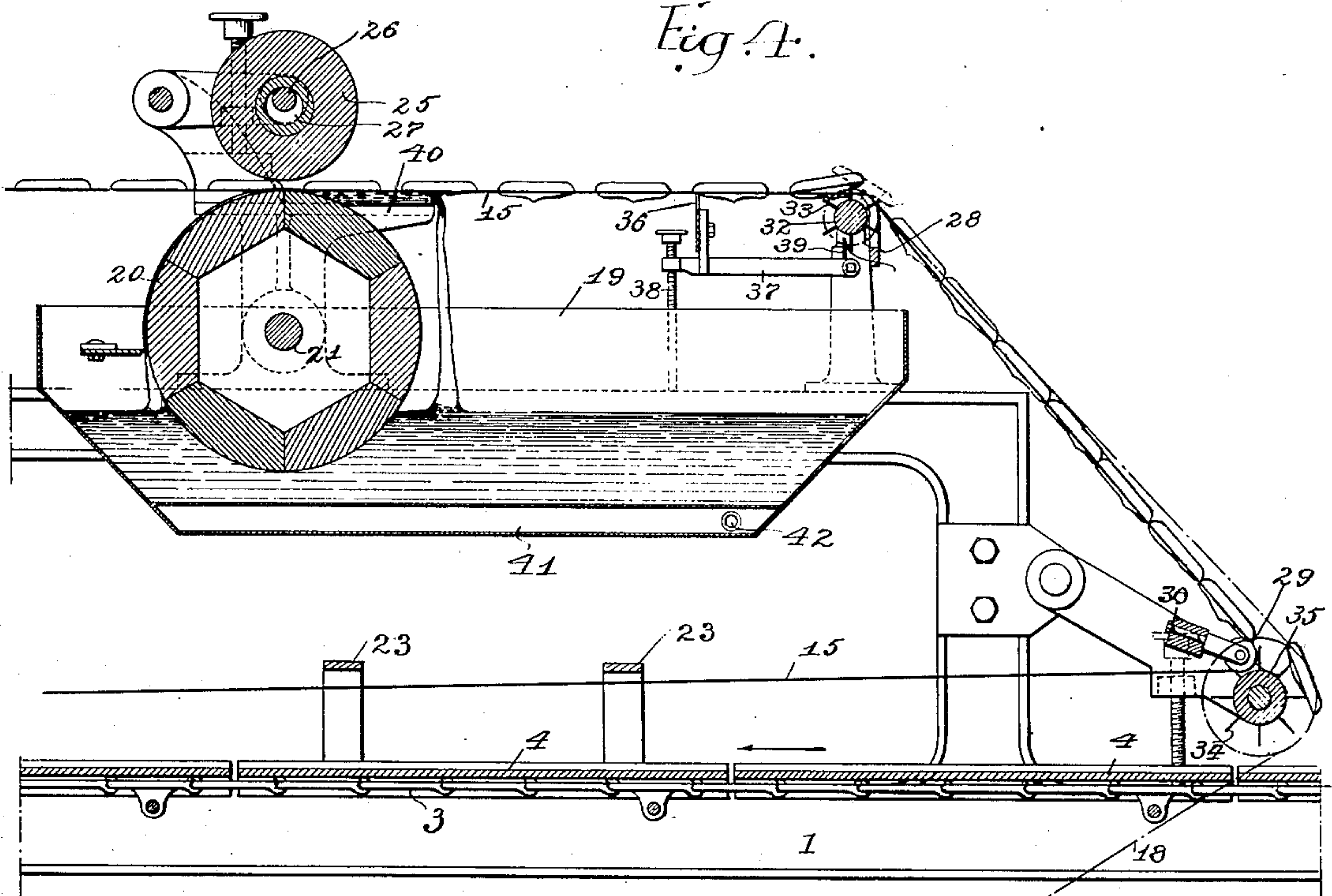


Fig. 4.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

PEMBROKE D. HARTON, OF PHILADELPHIA, PENNSYLVANIA.

## CAKE-COATING MACHINE.

No. 910,812.

Specification of Letters Patent.

Patented Jan. 26, 1909.

Application filed February 21, 1908. Serial No. 417,076.

*To all whom it may concern:*

Be it known that I, PEMBROKE D. HARTON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Cake-Coating Machines, of which the following is a specification.

My invention relates to apparatus designed for applying a coating of icing, chocolate, jelly or other material to the surface of small cakes, crackers and the like; and the object of my invention is to provide a machine that will satisfactorily perform the coating operation, and then deliver the cake right side up for conveyance to a suitable packaging point.

My invention is fully shown in the accompanying drawings, in which:

Figure 1, is a sectional elevation, partly in section and partly broken away, showing a cake coating machine made in accordance with my invention; Fig. 2, is a plan view of the same; Fig. 3, is a cross-sectional view of the same, taken on the line *a-a*, Fig. 1; Fig. 4, is an enlarged view of a portion of the apparatus; and Fig. 5, is a perspective view illustrating a detail of my invention.

In a former application for patent for a machine for accomplishing this work, filed July 9, 1907, Serial No. 382,825, I have shown a belt arranged to receive a coating of icing, upon which cakes are fed, and by means suitably disposed, such cakes are pressed into and pick up a certain portion of the icing, and then are delivered by the belt to a suitable conveyer whereby they are carried to a packaging point.

In the structure forming the subject of my present invention, I provide a roll for coating the cakes, arranged to rotate in a bath of icing or other coating material and thereby gather a coating of the same for application to crackers or cakes fed thereto; such crackers or cakes in the coated condition passing to suitable means for dislodging them from the means carrying them to the coating roller whereby they may be passed to a suitable conveyer and carried to a packaging point.

In the drawings herewith, 1 represents a frame carrying suitable bearings in which are journaled various shafts necessary to support chain wheels for driving the various belts necessary to complete the operation of the apparatus. A main driving shaft 2 be-

ing provided from which the other shafts are driven.

The main frame may be of considerable length, and carries an ordinary conveyer belt 3, to which boards 4 are applied, onto which the iced cakes are discharged with the icing face uppermost; such boards being carried to a suitable packaging point.

Above the main frame is a smaller supplemental frame 5, which may be integral therewith, although this point is immaterial, which supplemental frame carries a feeding belt 6 onto which the cakes may be placed from suitable hoppers or laid by hand. This belt passes around a driving drum 7 at one end, driven in any suitable manner, and around a narrow blade 8 at the opposite end so as to provide a thin delivery portion from which the cakes will readily discharge. This blade is carried by segments 9, pivotally mounted inside bars 10 connected to the journal bearings 11 for the shaft of said roll. These bars are movable by screws 12 to maintain the belt taut and the segments are adjustable to change the point of delivery of the cakes; such segments being apertured at 13 to receive pins 14 carried by the side bars. From such belt, the cakes are delivered to a series of wires, strings or cords 15 of comparatively small size, and set quite close together. These cords pass around a drum 16 at the forward end, which is provided with a chain wheel 17 driven by a suitable chain 18 from the driving shaft. Disposed within the space formed by the said strings or wires, is an icing tank 19, in which a roller 20, journaled in bearings 21 is adapted to move and thereby carry a film of icing, a gage or scraper 22 being employed to regulate as much as possible the thickness of the icing on the roll. In order to remove this pan, supports 23 are carried by the frame 1, upon which the tray may be lowered when detached from its normal position, and from such supports it may be passed through the opening in said frame.

The cakes are fed to the strings or wires 15, and are carried thereby into engagement with the icing roll, and in order to insure their contact therewith so as to pick up the icing on said roll, I provide a series of narrow, loosely mounted wheels 25 forming a presser roll which is mounted directly above the icing roll on a shaft 26 somewhat smaller in diameter than the opening 27 in said wheels to receive the same, so that said rolls will have



sufficient play to enable them to ride over cakes of various heights. The wires or cords extend to grooved guides 28 at the end of the supplemental frame, and from there extend  
5 in an inclined direction to a series of pulleys 29 carried by an adjustable cross-bar 30, and from thence to an idler pulley 31 back to the driving pulley.

In order to insure the feed of the cakes with  
10 their iced face over the guides 28 I provide a roller 32 having a series of pins 33 adapted to sweep between said wires or strings and the guides and lift the cakes from the horizontal runs of the wires and turn them onto the in-  
15 clined runs of the same. The cakes are carried down on the inclined runs to the point where the wires pass around the pulleys 29, where they are met by the pins 34 of another roll 35 which lift them from said wires or strings 15 and drop them onto the boards 4 of the conveyor belt 3 with the icing face uppermost. The operation of icing cakes in this manner is carried on continuously, and the feature of my invention is the passage of said cakes over  
20 an icing roll and the turning of the same from the carrying wires or strings onto boards whereby they may be conveyed to a packaging point.

In order to keep the wires or cords as clean  
30 as possible so that the cakes will not become foul when carried by the same, I provide a scraper therefor, consisting of a blade 36 carried by an arm 37 pivotally mounted on the supplemental frame, said arm having a screw  
35 38 whereby the blade may be adjusted with respect to the said threads. The pins 33 of the roller 32 are cleaned by pins 39 carried by the arm 37.

To insure a sufficient amount of icing to  
40 thoroughly coat the cakes, I provide a supplemental icing plate 40, lying close to and extending beyond the icing roll, which will receive icing from said roll and furnish additional contact for the cakes as they leave the  
45 latter.

The icing or coating material within the tank 19 may be heated if desired, a space 41 at the bottom of the same being in communication by the pipe 42, with a source of hot  
50 water or steam.

I claim:

1. The combination, in a cake coating machine, of a conveyor, an icing roll disposed below said conveyor, means for feeding cakes  
55 to said conveyor for passage to the icing roll, means for pressing said cakes into the icing, said conveyor having horizontal and inclined portions in its run, and means for lifting said cakes from the horizontal portion of said conveyor and delivering them to the inclined  
60 portion of the same.

2. The combination, in a cake coating machine, of a conveyor, an icing roll disposed below said conveyor, means for feeding cakes  
65 to said conveyor for passage to the icing roll,

said conveyor having an inclined portion in its run, means for delivering cakes to said inclined portion, and means for removing cakes from said inclined portion and simultaneously turning them to bring the iced  
70 face up.

3. The combination, in a cake coating machine, of an icing roll, a series of wires for delivering cakes to said roll, said wires or  
75 cords forming a cake conveyor with horizontal and inclined runs, means for lifting said cakes from the horizontal run to the inclined run with the icing face in contact with said cords, and means for lifting the cakes from the inclined run and simultaneously turning  
80 the same.

4. The combination, in a cake coating machine, of an icing roll, a series of wires forming a conveyor for delivering cakes to  
85 said roll, said wires or cords forming a cake conveyor with horizontal and inclined runs, fixed guides for said wires between the horizontal and inclined runs, means for lifting said cakes from the horizontal run to the inclined  
90 run to clear the guides, pulleys for said wires, and means disposed at the lower end of the inclined run for lifting the cakes and simultaneously turning the same.

5. The combination, in a cake coating machine, of a series of wires or cords forming  
95 a conveyor, means for icing cakes carried by said conveyor, said conveyor comprising a horizontal and an inclined run for the cakes, fixed guides for changing the direction of said conveyor from the horizontal to the inclined  
100 position, and pins rotatably mounted and arranged to sweep between said wires or cords and carry the cakes from the horizontal to the inclined runs of the conveyor over the fixed guides.  
105

6. The combination, in a cake coating machine, of a series of wires or cords forming a conveyor, means for icing cakes or biscuits carried by said conveyor, the latter having a  
110 horizontal and an inclined run, means for shifting said cakes from the horizontal to the inclined run, and means for delivering cakes from the lower end of the inclined run, said means comprising rotating pins which sweep between the cords or wires lifting the cakes  
115 and simultaneously turning the same.

7. The combination, in a cake coating machine, of a series of wires or cords forming a conveyor, an icing roll in contact with said  
120 cords or wires whereby cakes laid upon the same will be brought into engagement with the icing roll, and a shallow pan set beyond the icing roll and serving to receive icing therefrom and thereby lengthen the contact of the cake with such icing.  
125

8. The combination, in a cake coating machine, of an icing roll, conveying means arranged to move across the surface of said  
icing roll and carry cakes into contact with the latter, said conveyor having horizontal  
130



and inclined portions, and means for lifting the cakes from the horizontal portion and passing them onto the inclined portion.

9. The combination, in a cake coating machine, of an icing roll, conveying means arranged to move across the surface of said icing roll and carry cakes into contact with the latter, said conveyer having horizontal and inclined portions, means for lifting the cakes from the horizontal portion and passing them onto the inclined portion, and means for removing said cakes from the inclined portion.

10. The combination, in a cake coating machine, of an icing roll, conveying means

arranged to move across the upper surface of said icing roll and carry cakes into contact with the latter, said conveyer having horizontal and inclined portions, rotating means for lifting the cakes from the horizontal portion and passing them onto the inclined portion, and independent rotating means for removing said cakes from the inclined portion.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

PEMBROKE D. HARTON.

Witnesses:

MURRAY C. BOYER,  
JOS. H. KLEIN.